

# TRANSMITTAL

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Subject/Title:

Annual Groundwater Monitoring and Remedial Progress Report - Revised  
Former TRW Microwave Site, 825 Stewart Drive, Sunnyvale, CA

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Northrop Grumman Corporation is submitting the above-referenced

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If you have any questions or comments regarding the enclosed report, please feel free to call Shantal Der Boghosian at 310-332-7612.



**ANNUAL GROUNDWATER  
MONITORING AND REMEDIAL  
PROGRESS REPORT**

**FORMER TRW MICROWAVE SITE  
825 STEWART DRIVE  
SUNNYVALE, CALIFORNIA**

**May 2018**

Revised November 2018

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# ANNUAL GROUNDWATER MONITORING AND REMEDIAL PROGRESS REPORT

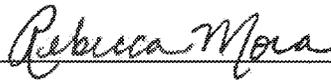
FORMER TRW MICROWAVE SITE  
825 STEWART DRIVE  
SUNNYVALE, CALIFORNIA

May 3, 2018

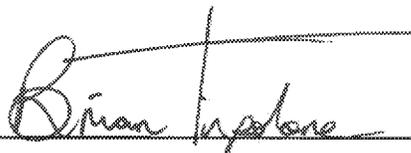
Revised November 2018

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## **1.0 INTRODUCTION**

This Annual Groundwater Monitoring and Remedial Progress Report (report) presents the results of the groundwater monitoring program and summarizes the remedial activities conducted by Northrop Grumman Systems Corporation (Northrop Grumman) in 2017 at the former TRW Microwave Site (Site) in Sunnyvale, California (Figure 1). The United States Environmental Protection Agency (USEPA) is the lead regulatory agency for the Site, after regulatory oversight transferred from the California Regional Water Quality Control Board - San Francisco Bay Region (RWQCB) on August 7, 2014 (USEPA, 2014).

The groundwater monitoring program includes 1) annual monitoring activities previously established by RWQCB (RWQCB, 1999) including Non-Pumping Conditions (NPC) evaluation (RWQCB, 2001a) and 2) semi-annual monitoring performed as part of the Enhanced Anaerobic Bioremediation (EAB) program, in accordance with RWQCB's February 17, 2004 letter (RWQCB, 2004a).

### **1.1 Groundwater Monitoring Well Network**

Forty-seven (47) wells and the Eductor (a groundwater extraction pipe installed within the former underground storage tank [UST] gravel backfill pit) have been completed at the Site in five depth intervals, designated as Zones A, B1, B2, B3, and B4 (Table 1). These zones consist of permeable sediments, ranging from silty sand to sand and gravel, and are vertically separated by laterally continuous lower permeability clay and silt intervals.

In 2004, wells T-1A and T-1B were abandoned with permission from RWQCB (CDM, 2004 and RWQCB, 2004a). As discussed in the 2014 annual report (AECOM, 2015a), four wells (T-2A, T-2B, T-2C, and T-3A) and the Eductor, all located inside the building, were destroyed in October and November 2014. Figure 2 shows the Site layout and existing well locations (as of October 2017).

### **1.2 Groundwater Monitoring Program**

The groundwater monitoring program at the Site includes two components: 1) evaluation of NPC and 2) evaluation of the EAB program. The NPC evaluation was initiated in April 2001 and involves the assessment of volatile organic compound (VOC) concentration trends after complete suspension of groundwater extraction at the Site. Section 2.1 discusses the groundwater extraction and treatment (GWET) system that was previously operated at the Site. The EAB program was initiated in October 2000 to more aggressively remediate the former Site source area (the former UST area). The EAB program is discussed in Section 2.2.

Select wells are sampled on an annual basis. For the 2017 calendar year, Northrop Grumman continued to follow the monitoring schedule approved by RWQCB and USEPA in 2007 (RWQCB, 2007).

All groundwater samples were analyzed for VOCs using USEPA Test Method 8260B. As part of the EAB program, select samples were also analyzed for geochemical parameters, electron acceptors, and metabolic by-products using USEPA test methods or other standard methods, and dechlorinating microbes using polymerase chain reaction methods. A detailed discussion of the relevance of the individual EAB analyses was presented in the *Evaluation of Natural*

*Attenuation and Chemical Oxidation Report* (CDM, 2000a). A detailed discussion of the EAB process and groundwater oxidizing and reducing conditions was presented in the work plan for the initial EAB program (CDM, 2000b). In addition to these analyses, selected wells have been periodically (including the 2017 annual event) sampled for compound-specific isotope analysis (CSIA) to evaluate and the effectiveness of the EAB program.

## **2.0 SITE REMEDIAL ACTIVITIES**

This section presents a discussion of the GWET system (which was removed in 2012), EAB program, and 2017 activities at the Site. Figure 3 illustrates soil and groundwater remediation activities performed at the Site through 2017.

### **2.1 Groundwater Extraction and Treatment System**

The GWET system operated from 1985 to April 2001. The GWET system consisted of seven extraction wells (completed at three cluster locations), the Eductor, transmission pipelines, and a treatment system. Although groundwater extraction no longer occurs, the T-8 and T-9 well clusters were used for groundwater monitoring in 2017. The GWET wells were as follows:

- T-2 cluster: Wells T-2A, T-2B, and T-2C, completed in Zones A, B1, and B2, respectively. These wells were destroyed in November 2014.
- T-8 cluster: Wells T-8A and T-8B, completed in Zones A and B1, respectively.
- T-9 cluster: Wells T-9A and T-9B, completed in Zones A and B1, respectively.
- Eductor: A perforated PVC pipe within a gravel-backfilled excavation (Site source area), completed in Zone A at a location adjacent to and immediately up gradient of the T-2 cluster. The Eductor was destroyed in October 2014.

Extracted groundwater was treated at the Site via an air stripper to remove VOCs, under a Bay Area Air Quality Management District permit. Treated groundwater was discharged to the storm drain under a National Pollutant Discharge Elimination System permit. A total of approximately 92.5 million gallons of groundwater were extracted prior to suspension in 2001, from which approximately 3,100 pounds of trichloroethene (TCE) were removed.

Pumps in extraction wells at and near the former Site source area (T-2A, T-2B, T-2C, T-8A, T-8B, and the Eductor) were turned off prior to, or shortly after, the initiation of the EAB program (RWQCB, 2000). In April 2001, pumps in the remaining two extraction wells, located near the northern property boundary (T-9A and T-9B), were turned off to allow the property owner to conduct Site redevelopment activities (RWQCB, 2001b). Subsequently, approval from RWQCB was received for the continued suspension of groundwater extraction based on changes in VOC concentrations after suspension (CDM, 2001 and RWQCB, 2001c). As a result of continued improvements in groundwater VOC concentrations across the Site, RWQCB approved suspension of groundwater extraction and recommended suspension be continued in their Five-Year Review report to USEPA (RWQCB, 2004a and 2004b). USEPA approved RWQCB's Five-Year Review Report (USEPA, 2004). Since April 2001, groundwater extraction at the Site has

not occurred. The GWET system was dismantled and removed from the Site in November 2012 because it had deteriorated beyond repair.

## 2.2 Enhanced Anaerobic Bioremediation Program

Following completion of CDM's *Evaluation of Natural Attenuation and Chemical Oxidation Report* (CDM, 2000a) and approval from RWQCB (RWQCB, 2000), Northrop Grumman (then TRW Inc.) implemented the EAB program at the Site in 2000. The following presents the chronology of the implementation and progress of the EAB program:

Date	Report/Letter/Event
March 2000	CDM's report on the evaluation of natural attenuation and chemical oxidation recommended that in situ remediation via EAB be implemented for Zone B1 (CDM, 2000a).
August 2000	CDM submitted a work plan to implement an EAB pilot program in Zone B1 at the former Site source area (CDM, 2000b).
October 2000	After verbal approval from RWQCB, CDM implemented the EAB pilot program by injecting polylactate ester (via Regenesys' Hydrogen Release Compound [HRC] products) into Zone B1 in and around the former Site source area (see Figure 3).
April 2001	Based on the periodic monitoring of Zone A wells within the EAB treatment area, CDM determined that the limited amount of HRC product that was injected into Zone A during the injection into Zone B1 had significantly changed conditions in Zone A to support EAB. CDM submitted an addendum to the EAB work plan to inject electron donor into Zone A. RWQCB approved the addendum. (CDM, 2001 and RWQCB, 2001c)
June 2001	CDM injected slow-releasing HRC to target Zone A. In addition, injections within the footprint of the former treatment system, which was not possible during October 2000 injection, were advanced into Zone B1.
December 2003, January 2004, and February 2005	Effectiveness monitoring showed that the EAB application increased the rate of VOC biodegradation occurring within the former Site source area and accelerated VOC attenuation rates across the downgradient portions of the Site.
August 2005	Subsequent to RWQCB approval (RWQCB, 2005), the EAB pilot program was expanded to include groundwater immediately downgradient of the former Site source area in Zone A and Zone B1 (CDM, 2005) (see Figure 3).
April 2006	CDM submitted the Revised Proposed Plan to USEPA to change the groundwater remedy from GWET to in situ bioremediation (CDM, 2006).
July 2006	RWQCB issued a letter to USEPA in which they concurred with conclusions of the Revised Proposed Plan and recommended to USEPA to change the groundwater remedy for the Site from GWET to in situ bioremediation (RWQCB, 2006).

Date	Report/Letter/Event
January 2007	EAB performance monitoring showed that EAB continued to improve the groundwater quality and enhance VOC degradation in and around the former Site source area; however, VOC degradation had slowed at downgradient portions of the plume due to competing electron acceptors (Northrop Grumman, 2007).
June 2007	CDM submitted a work plan for additional Zone A EAB remedial activities, which proposed to conduct four quarterly cheese whey injections in the expanded portion of Zone A downgradient of the former Site source area (CDM, 2007).
August 2007	Subsequent to RWQCB approval (RWQCB, 2007), CDM installed seven injection wells and one monitoring well as part of the downgradient Zone A EAB treatment area.
September 2007	Tamalpais Environmental Consultants (TEC), under CDM oversight, performed the first of four quarterly cheese whey injection events into wells T-13A, T-14A, and T-18A through T-24A.
November 2007	CDM performed a one-time bioaugmentation event into wells T-13A, T-14A, and T-18A through T-24A, using groundwater from the Eductor.
December 2007	TEC, under CDM oversight, performed the second of four quarterly cheese whey injection events into wells T-13A, T-14A, and T-18A through T-24A.
March 2008	TEC, under CDM oversight, performed the third of four quarterly cheese whey injection events into wells T-13A, T-14A, and T-18A through T-24A.
June 2008	TEC, under CDM oversight, performed the last of four quarterly cheese whey injection events into wells T-13A, T-14A, and T-18A through T-24A.
January 2010	EAB performance monitoring showed depletion of electron donor (cheese whey) and initial rebound of competing electron acceptors in the expanded EAB treatment area (Northrop Grumman, 2010).
October 2010	AECOM submitted a work plan for additional Zone A EAB remedial activities, which proposed to conduct one emulsified vegetable oil (EVO) injection and one neat vegetable oil injection in the former Site source area.
October 2010	AECOM injected EVO into the Eductor, located in Zone A within the former Site source area excavation.
November 2010	Vironex, under AECOM oversight, injected neat vegetable oil into the Eductor, located in Zone A within the former Site source area excavation.
November 2011	AECOM submitted a work plan for additional EAB remedial activities, which proposed to inject EHC-L and ABC+ downgradient of the former Site source area.
November 2011	Redox Tech, under AECOM oversight, injected EHC-L into injection wells T-13A, T-14A, and T-18A through T-24A and injected ABC+ into Zone A and Zone B1 via nine direct push locations (see Figure 3).

Date	Report/Letter/Event
December 2014	Vironex, under AECOM oversight, injected EVO under building footings in the vicinity of the former source area.

### 2.3 Source Area Excavation

In October and November 2014, a targeted excavation of the source area was performed in accordance with the *Well Destruction and Source Removal Work Plan* (AECOM, 2014a). The excavation was performed using large-diameter augers to remove contaminated material. The extent of the excavation was guided by the results of a membrane interface probe (MIP) investigation as well as additional confirmation soil borings. Based on the results of confirmation soil borings, the extent of the excavation was expanded, as explained in the *Work Plan Addendum for Source Area Removal Activities* (AECOM, 2014b). A total of approximately 590 tons of soil and semi-solids and approximately 9,000 gallons of water were removed from the source area (Orion Environmental Inc., 2015).

### 2.4 Activities Performed in 2017

During the current monitoring period (calendar year 2017), AECOM, on behalf of Northrop Grumman, conducted the annual groundwater monitoring event for the EAB program and NPC evaluation. In addition to groundwater monitoring, AECOM installed five monitoring wells in August 2017 to evaluate contaminant migration pathways at the Site (AECOM, 2018) and resurveyed all accessible monitoring wells.

#### 2.4.1 Groundwater Monitoring

Groundwater levels were measured in all accessible Site wells on October 9, 2017, in conjunction with the annual groundwater monitoring events for surrounding sites (adjacent operable units and the offsite operable unit). For the annual monitoring event, groundwater samples were collected from 30 monitoring wells on October 9 to 13, 2017 as part of the NPC evaluation and/or the EAB evaluation. A description of standard field procedures utilized for groundwater sampling and copies of the low-flow sampling logs for each well are included in Appendix A.

#### 2.4.2 Well Installation

During 2015, a technique referred to as Environmental Sequence Stratigraphy (ESS), was used to identify and map subsurface stream channel systems (or hydrostratigraphic units [HSUs]) in the vicinity of the Site that serve as primary groundwater flow and contaminant migration pathways. These pathways are shown on Figure 4 (Zone A), Figures 5 and 6 (Zone B1), and Figure 7 (Zone B2). Two HSUs were mapped in Zone B1 during the initial ESS evaluation, one of which traces back to the onsite source area (referred to as HSU1), and another deeper unit which is oriented oblique to the presumed groundwater gradient (referred to as HSU2) and is interpreted as a contaminant pathway from offsite sources (Figure 5). In addition, the screen interval for well T-9C, previously designated as a Zone B2 well, was reexamined and the designation of the well was changed from Zone B2 to Zone B3. A detailed summary of the

methodology and conclusions of the geologic evaluation are included in the *Technical Memorandum in Response to the 2014 Five-Year Review Report* (AECOM, 2015b) and the *Addendum to the Technical Memorandum in Response to the 2014 Five-Year Review Report* (AECOM, 2016a).

The results of a combination MIP and hydraulic profiling tool (HPT), referred to as MiHPT, survey performed in July 2016 confirmed and further refined the results of the previous ESS evaluation and resulting CSM. The survey identified a third separate HSU in Zone B1, located at a shallower depth than previously mapped HSU1 and HSU2, referred to as HSU3. This HSU was then mapped across the Site (Figure 6). Based on Hydropunch™ sampling results, significantly more mass of both TCE and cis-1,2-dichloroethene (cDCE) than were previously identified, based on monitoring results from well T-7B (screened in HSU2), are migrating onto the Site at the southern Site boundary.

Based on the data gaps identified after the survey, five new monitoring wells were installed at the site in August 2017 (shown on Figure 2 and screen intervals listed on Table 1). Well T-20B was installed at the southern property boundary to screen the newly identified HSU3. Well T-21B was installed in HSU3 at the western property boundary, cross gradient from the former source area.

The other three new monitoring wells were installed in the vicinity of well T-9B, which was previously identified as being screened across multiple HSUs. An initial continuous core borehole (BH9) was drilled at the north end of the Site in the vicinity of well T-9B to evaluate the geology and locate the three previously identified HSUs. Hydropunch samples were then collected from each of the three identified HSUs and sent to an offsite laboratory for analysis of VOCs. The analytical results appeared to confirm the interpretation of the geology. Therefore, three wells were installed (T-22B through T-24B) with the screened intervals each targeting HSUs 1, 2, and 3. Detailed information regarding well installation procedures is included in the *Well Installation Report* (AECOM, 2018). The newly installed wells were sampled as part of the annual sampling event in October 2017 and the results are incorporated into the discussion in Section 3.2 of this report.

#### **2.4.3 Resurvey of Site Well Locations**

Monitoring wells have been installed at the Site over the course of many decades and surveyed by a variety of surveyors. To better facilitate evaluation of the lithology and HSUs, all accessible site wells were resurveyed on January 15, 2018. The updated well locations are reflected on Figure 2 and the updated top of casing elevations are included in Tables 1 and 2.

### **3.0 RESULTS**

This section presents a discussion of water-level elevations and groundwater analytical results for the October 2017 annual groundwater monitoring event.

#### **3.1 Water-Level Elevations**

The October 2017 water-level elevation data for the Site wells are presented in Table 2 and historical water-level data are presented in Appendix B. The historical data include measured

depths to groundwater and the calculated water-level elevations recorded for each well since 1986. Potentiometric surface contours generated for Zones A (from first encountered groundwater to approximately 20 feet above mean sea level [MSL]), B1 (approximately 20 above MSL to 0 feet above MSL), and B2 (approximately 0 feet above MSL to 20 feet below MSL) using the October 2017 water-level elevation data are presented on Figures 4 through 7. In both Zone B3 and Zone B4, there is only one Site well screened within each zone, and therefore a potentiometric surface cannot be contoured for those zones.

Depth to water, as measured in October 2017, indicates that the static depth to the water table in Zone A ranged from approximately 6.18 feet (well 36D) to 7.92 feet below ground surface (bgs) (well 38S), see Table 2. The regional and local direction of groundwater movement in Zone A is to the north at an average horizontal gradient of 0.005 horizontal foot per vertical foot, consistent with previous monitoring events. The general horizontal groundwater gradient in Zone B1 is to the north with a northwestern component at the south end of the Site. Based on the recent ESS evaluation (Section 2.4.2), groundwater movement is influenced locally by channelized flow related to stream deposits. The gray areas on Figures 4 through 7 represent areas of low permeability silt/clay-rich floodplain deposits that impede groundwater flow relative to the higher permeability sand/gravel stream channel deposits. Groundwater movement in Zone B2 is to the northwest. Water levels and groundwater movement in Zones B1 and B2 have historically been, and continue to be, affected by groundwater extraction at the Philips sites (located to the west at 815 Stewart Drive and 440 Wolfe Road).

As discussed in Section 2.4.3, the Site wells were resurveyed during this reporting period. Therefore, groundwater elevations will not be compared to 2016 data.

### **3.2 Groundwater Analytical Results**

VOCs detected during the October 2017 groundwater sampling events are summarized in Table 3. The historical results for previous monitoring events performed since 1990, including monitoring events for the EAB program and the NPC evaluation, are presented in Appendix C. Historically, low concentrations of other VOCs (e.g., chloroform) have occasionally been detected. These VOCs are not listed in Table 3 or Appendix C as they are not associated with Site operations and have not been detected above their Site cleanup requirements (SCRs) (e.g., California Maximum Contaminant Levels [MCLs] or action levels, federal MCLs, or risk-based levels).

Figures 8 through 10 present the analytical results for TCE, cDCE, and vinyl chloride (VC) for each of the zones (A, B1, and B2). Graphs of TCE and cDCE concentrations vs. time for representative Site wells, including seven wells in Zone A (T-2A, T-7A, T-8A, T-9A, T-13A, T-15A, and T-16A) and seven wells in Zone B1 (T-2B, T-4B, T-7B, T-8B, T-9B, T-10B, and T-17B), are presented on Figures 11 through 14. Figure 15 presents TCE concentrations vs. time for representative on-site Zone B2 wells (T-2C, T-10C, T-11C, and T-12C). Note that wells T-2A, T-2B, and T-2C are still included on these figures for reference, even though the wells no longer exist.

Graphs of concentrations of tetrachloroethene (PCE), TCE, cDCE, trans-1,2-dichloroethene (tDCE), and VC for October 2017 at select wells, along the general groundwater flow direction in Zone A, across the Site are presented on Figure 16. Due to the recently identified separate HSUs

in Zone B1 and differing contaminant profiles in these HSUs (AECOM, 2016b), a similar figure was not created for Zone B1.

Results of the October 2017 groundwater EAB analyses, including geochemical parameters, electron acceptors, metabolic by-products, electron donor indicators (such as total organic carbon [TOC]), and dechlorinating microbes, are summarized in Tables 4, 5, and 6. These results represent groundwater conditions after the 2010 EVO and neat vegetable oil injections and the November 2011 EHC-L and ABC+ injections. The historical analytical results for pre- and post-EAB monitoring events performed since 2000 are presented in Appendix C.

VOC and EAB (if relevant) analytical results for each part of the Site are discussed as follows: upgradient Zone A and Zone B1 wells (Section 3.2.1), downgradient Zone A and Zone B1 wells (Section 3.2.2), Zone B2 wells (Section 3.2.3), and offsite VOC concentrations (Section 3.2.4). A separate discussion is provided for CSIA results in Section 3.2.5. Note that former source area wells are not discussed as they were destroyed in late 2014 and therefore not sampled in 2017. However, historical data for former source area wells are still included on Figures 11 through 14 and in Appendix C.

For selected Site wells, trend plots of chlorinated ethene concentrations prior to and after suspension of groundwater extraction are presented in Appendices D and E. Copies of the laboratory analytical reports and chain-of-custody forms for the 2017 groundwater monitoring events are in Appendix F.

### **3.2.1 Site Zone A and Zone B1 Upgradient Wells**

Impacts to the Site from offsite sources continue to be apparent for Zones A and B1.

#### Zone A

Groundwater analytical results from Zone A wells 36S, 36D, T-7A, and 37S, located along the upgradient southern Site boundary, indicate migration of VOCs, primarily TCE and cDCE, onto the Site. Concentrations of TCE migrating onto the Site (particularly from areas around well T-7A) are similar to or greater than those for wells downgradient of the former Site source area in Zone A (see Figure 16).

- Between 2013 and 2017, Zone A wells 36D and 37S, located along the upgradient Site boundary, have had TCE concentrations ranging from 2.7 micrograms per liter ( $\mu\text{g/L}$ ) to 420  $\mu\text{g/L}$  and cDCE concentrations ranging from 0.84  $\mu\text{g/L}$  to 43  $\mu\text{g/L}$ . In particular, concentrations of both TCE, cDCE, and Freon 113 (associated with the Philips site) detected in Well 37S increased by an order of magnitude between 2016 and 2017.
- Between 2013 and 2017, TCE and cDCE concentrations for T-7A, located approximately 175 feet upgradient of the former Site source area, have ranged from 160  $\mu\text{g/L}$  to 250  $\mu\text{g/L}$  and 64  $\mu\text{g/L}$  to 100  $\mu\text{g/L}$ , respectively. In October 2017, the concentrations of TCE and cDCE in T-7A were 160  $\mu\text{g/L}$  and 84  $\mu\text{g/L}$ , respectively.

#### Zone B1

Groundwater analytical results for Zone B1 wells T-5B, T-7B, and newly installed well T-20B along the upgradient Site boundary also indicate VOC migration onto the Site.

- Between 2006 and 2011, TCE, cDCE, and Freon 113 concentrations for Zone B1 well T-5B exhibited fluctuations likely due to periodic shutdown of the Philips 815 groundwater extraction system, located adjacent to the southwesterly Site boundary, which allowed migration of impacted groundwater from upgradient, offsite source areas onto the Site. Concentrations remained relatively stable from 2011 through 2015, with TCE concentrations ranging from 1,400 µg/L to 1,800 µg/L. In 2016, concentrations of TCE, cDCE, and Freon 113 in well T-5B decreased to 170 µg/L, 8.8 µg/L, and 6.1 µg/L, respectively. In 2017, the concentrations of TCE, cDCE, and Freon 113 were 1,500 µg/L, 54 µg/L, and 160 µg/L, respectively, which are all within the range observed between 2011 and 2015.
- Between 2007 and 2017, TCE concentrations for Zone B1 well T-7B have fluctuated between 21 µg/L and 200 µg/L. In 2017, the concentrations of TCE, and cDCE, and Freon 113 were 190 µg/L, 9.7 µg/L, and 4.1 µg/L, respectively. As discussed in Section 2.4.2, well T-20B was installed in 2017 to monitor concentrations coming on site in HSU3, a shallower HSU not screened by well T-7B. Concentrations of TCE and cDCE in well T-20B were 230 µg/L and 280 µg/L, respectively, indicating that higher concentrations are migrating onto the site than were previously monitored by well T-7B.

In Zone B1, the historical presence of Freon 113, a VOC which has not been attributed to the former Site source area, has been demonstrated to be related to offsite sources. Historical and/or current Freon 113 concentration data (Appendix C) from Site Zone B1 wells T-5B, T-7B, T-17B, and T-19B continue to indicate impact from offsite sources. Fluctuating concentrations between 2008 and 2017 in one Zone B1 well, T-5B, further supports the benefit of continued shutdown of onsite extraction to mitigate further migration of VOCs from offsite sources onto the Site.

### **3.2.2 Site Zone A and Zone B1 Downgradient Wells**

Downgradient of the former source area, the influence of the EAB program has been more pronounced for Zone B1 than Zone A, consistent with greater hydraulic connection and higher transmissivity in the deeper zones due to more laterally continuous permeable zones. As described in Section 2.2, EAB remedial activities, consisting of cheese whey injections, were conducted in downgradient Zone A wells (T-13A, T-14A, and T-18A through T-24A) in September 2007, December 2007, March 2008, and June 2008. In November 2011, EHC-L was injected into the same downgradient Zone A wells and ABC+ was injected in direct push points downgradient of the source area in Zones A and B1. Additional limited EAB injections were also conducted beneath the building footer in December 2014 to address soil that was not accessible during source area excavation activities.

#### *VOC Concentrations*

##### Zone A

The EAB process and source excavation activities have removed considerable VOC mass from the former Site source area and immediate vicinity. This has reduced the VOC mass migrating to the downgradient Site areas. The cessation of groundwater extraction has enhanced conditions by returning the groundwater gradient to its natural condition, allowing for longer residence times between wells T-8A and T-9A, and hence, higher attenuation potential within these areas. TCE concentrations for well T-9A are consistently lower than the upgradient property boundary well T-7A, and total chlorinated ethene concentrations for T-13A, T-14A, T-8A, T-15A, T-16A, and T-9A (listed from upgradient to downgradient) are less than those for upgradient property boundary well T-7A (see Figure 16 and Appendices D and E).

In October 2017, TCE concentrations remained consistent or decreased slightly in all of the former cheese whey and EHC-L injection wells sampled as compared to 2016. However, these concentrations remained below the concentration of TCE in upgradient monitoring well T-7A, which represents contamination migrating onto the site. Concentrations of cDCE were generally stable.

Well 38S, located near the western Site boundary and screened in Zone A, has consistently displayed a differing contaminant profile from other Zone A wells (higher cDCE concentrations and presence of Freon 113). Based on ESS evaluation, a northeast-oriented channel traverses the neighboring Philips 815 site and continues onto and across the Site in the vicinity of well 38S (Figure 4). Therefore, it is likely that well 38S is impacted by offsite sources.

### Zone B1

As discussed in Section 2.4.2, two HSUs were mapped in Zone B1 during the initial ESS assessment (Figure 5). HSU1 runs north-south across the Site and includes the former TRW source area. HSU2 is in communication with offsite contaminant source areas to the southwest that contribute to contamination found in onsite wells T-17B, T-4B, and T-9B. As discussed in Section 2.4.2 and shown on Figure 6, during the background water quality evaluation, a third shallower HSU, HSU3, was identified in Zone B1 that contains higher concentrations of VOCs at the southern property boundary than were previously monitored by monitoring well T-7B, as evidenced by the concentrations detected in T-20B.

In downgradient monitoring well T-8B, which is screened across both HSU1 and HSU3, total chlorinated ethene concentrations decreased by more than 50 percent (%) following initiation of Zone B1 EAB activities in 2000 (see Appendix C). TCE concentrations increased from October 2007 to October 2013 (from 7.5 µg/L to 36 µg/L), decreased to 10 µg/L in October 2014, and remained below the MCL (5 µg/L) through October 2016 with a concentration of 0.84 µg/L. In 2017, the TCE concentration remained below the detection limit (10 µg/L). Concentrations of daughter product cDCE have significantly fluctuated in this well since 2009 with concentrations ranging from 6.2 µg/L to 450 µg/L.

In well T-4B, located near the western property boundary and screened in HSU2, the TCE concentration in October 2017 was 5.2 µg/L, slightly above the SCR of 5 µg/L. Concentrations of cDCE have been consistently higher than TCE since 2000, and have fluctuated between 120 µg/L and 650 µg/L since 2007, with one exception of 830 µg/L in 2013. The cDCE concentrations in this well have also been historically higher compared to other Zone B1 wells

since 2005. These elevated cDCE concentrations could be attributable to two factors: (1) the migration of EAB dechlorination products (cDCE, VC, and ethene) in groundwater from the former Site source area, and (2) the migration of cDCE onto and through the Site from offsite sources via HSU2. Elevated concentrations of TCE, cDCE, and Freon 113, associated with offsite sources) detected in newly installed well T-21B, located along the western property boundary cross gradient from the former Site source area, support that contaminants are migrating from offsite at the western property boundary. Elevated concentrations TCE and cDCE similar to those detected in well T-21B were also detected in well T-17B along the western property boundary.

It is inferred that well T-9B, screened in both HSU1 and HSU2, was historically impacted by an offsite source as a result of pumping from T-9B, inducing migration of VOCs onto the Site in Zone B1 (CDM, 1999 and 2000c). This conclusion is supported by the historical substantially higher TCE concentrations for well T-9B compared to upgradient Zone B1 wells T-8B and T-10B, and the historical presence of Freon 113 in T-9B, which is not attributed to the Site. The decrease in TCE concentrations following the suspension of groundwater extraction at T-9B, different contaminant profile from upgradient onsite wells, and the mapping of HSUs within Zone B1 support the conclusion that groundwater around well T-9B is impacted by migration of VOCs onto the Site.

As described in Section 2.4.2, three discretely screened monitoring wells (wells T-22B, T-23B, and T-24B) were installed in August 2017. The results of the October 2017 sampling event (Table 3 and Figure 9), showed that concentrations of VOCs in these discretely screened monitoring wells were lower than those detected in well T-9B. TCE and cDCE concentrations ranged from 63 µg/L to 97 µg/L and 100 µg/L to 130 µg/L, respectively in wells T-22B, T-23B, T-24B. Concentrations of TCE and cDCE in well T-9B were 310 µg/L and 260 µg/L, respectively, in October 2017. The relatively higher concentrations detected in well T-9B may be the result of back diffusion of VOCs that migrated to the well during the period when groundwater extraction was active and were stored in surrounding finer-grained, low permeability materials.. The concentrations in the new wells (T-22B, T-23B, and T-24B), screened discretely in each HSU, are likely more representative of current groundwater concentrations migrating across the site.

#### *EAB Parameters*

TOC concentrations for the EHC-L injection wells increased up to 34 mg/L in April 2012 following EHC-L injection, decreased to below 10 mg/L by October 2012, and decreased to below 3 mg/L by October 2016. In 2017, TOC concentrations continued to decrease to below 1.3 mg/L (Table 4). These decreases in TOC concentrations, corresponding decreases in contaminant concentrations, and increased production of daughter products (cDCE and VC) suggest that the electron donor has been successfully utilized to facilitate degradation of VOCs. This is supported by geochemical data indicating that reducing conditions conducive to EAB are still present in the EHC-L injection wells 5 years after injection, with low dissolved oxygen concentrations and elevated methane concentrations. Dehalococcoides bacteria (Dhc) were detected in the EHC-L injection wells in October 2017 (Table 6); however, population counts have decreased.

### **3.2.3 Site Zone B2 Wells**

In Zone B2, a lower permeability unit oriented to the north-northeast traverses the Site (Figure 7). Onsite well T-10C is located on the western margin of this low permeability unit, potentially indicating a degree of communication with contamination coming from offsite. This is further supported by the significantly different contaminant concentrations detected in well T-10C compared to onsite wells in Zone B2 (e.g., the presence of Freon 113 at significantly higher concentrations than other Zone B2 wells at the Site). TCE and cDCE concentrations at T-11C to the east ranged from 4.3 µg/L to 310 µg/L and from 2.4 µg/L to 26 µg/L, respectively. Concentrations in well T-10C of TCE and cDCE were 740 µg/L and 650 µg/L, respectively (see Figure 5). TCE concentrations increased in all Zone B2 wells between 2016 and 2017; however the concentrations are within the range seen historically (Appendix C). VOC concentrations for Zone B2 in the central Site area decreased an order of magnitude following suspension of groundwater extraction from Site well T-2C in November 2000 as well as the presence of Freon 113 in all downgradient Zone B2 monitoring wells suggests that contamination in Zone B2 is at least partially attributed to contamination pulled on site during groundwater extraction.

### 3.2.4 Offsite Groundwater Analytical Data

VOC results for the October 2017 monitoring events conducted on the nearby Philips and AMD properties were provided to Northrop Grumman and reviewed during the preparation of this annual report. These data indicate that the neighboring Philips 815 site continues to demonstrate substantial VOC impact in groundwater with maximum October 2017 concentrations of TCE and cDCE of 16,000 µg/L and 52,000 µg/L, respectively.

VOC data for the AMD 901/902 site, located upgradient of the Site, indicate a maximum TCE concentration of 420 µg/L for Zone A and 200 µg/L for Zone B1. TCE concentrations on the AMD 915 site, located downgradient of the Site, indicate a maximum of 84 µg/L for Zone A. The VOC concentrations observed in Site Zone A wells 36S, 36D, and T-7A located along the upgradient Site boundary are attributed to the migration of contamination from upgradient properties such as Mohawk Laboratories and AMD.

### 3.2.5 Compound-Specific Isotope Analysis

To better evaluate the effectiveness of past and ongoing EAB processes, monitoring for CSIA of TCE and cDCE was initiated in 2007. Carbon isotopes present in TCE and cDCE include <sup>13</sup>C and <sup>12</sup>C, with <sup>13</sup>C being the much less naturally abundant isotope. During anaerobic microbial reductive dechlorination of chlorinated compounds, the light (<sup>12</sup>C) versus the heavy isotope (<sup>13</sup>C) bonds are preferentially broken, resulting in isotopic enrichment of the residual contaminant in <sup>13</sup>C and a change in the isotopic ratio of <sup>13</sup>C/<sup>12</sup>C, also known as δ<sup>13</sup>C. CSIA measures the δ<sup>13</sup>C in a groundwater sample (with units of per mil - ‰) using the following equation:

$$\delta^{13}\text{C in } \text{‰} = \frac{(\text{}^{13}\text{C}/\text{}^{12}\text{C}_{\text{sample}} - \text{}^{13}\text{C}/\text{}^{12}\text{C}_{\text{standard}})}{\text{}^{13}\text{C}/\text{}^{12}\text{C}_{\text{standard}}} \times 1000$$

For chlorinated compounds,  $\delta^{13}\text{C}$  is typically a negative number that increases, or becomes less negative, as the compound is degraded and becomes enriched with  $^{13}\text{C}$  (heavier). Accordingly increases in  $\delta^{13}\text{C}$  (to become more positive) are associated with ongoing degradation processes. According to available guidance on CSIA data interpretation (USEPA, 2008), differences in  $\delta^{13}\text{C}$  values must be at a minimum greater than 1 ‰ to be considered real and greater than 2 ‰ for positive identification of degradation.

Samples from selected Site wells for CSIA have been collected since July 2007 and results are summarized in Appendix C. In October 2017, groundwater samples were collected from Zone A wells across the Site; however, as the source area wells were destroyed in 2014, source area data are no longer available as part of this evaluation. Groundwater samples were also collected from selected Zone B1 wells in October 2017 to compile a CSIA dataset for Zone B1. Zone B1 results are included in Appendix C but will not be discussed or interpreted until additional rounds of CSIA sampling are performed.

The Zone A CSIA data were collected to further evaluate EAB processes at the Site. EAB processes have resulted in mass destruction at the Site. This is indicated by TCE and DCE isotopic signatures which both become more enriched in  $^{13}\text{C}$  as groundwater traverses the Site from South to North. The  $\delta^{13}\text{C}$  values for TCE increase from upgradient location T-7A (-19.47 ‰) to T-13A (-17.17 ‰) and T-8A (-17.24 ‰), located near the historical on-site source area (Figure 16). At downgradient location T-9A, TCE is less enriched in  $^{13}\text{C}$  ( $\delta^{13}\text{C}$  of -20.43 ‰), however, as discussed this location may historically have been influenced by off-site sources through hydraulic recovery pumping activities, and the isotopic signature at this location is considered potentially representative of off-site conditions rather than post-remediation on-site conditions.

#### 4.0 CONCLUSIONS AND RECOMMENDATIONS

Groundwater monitoring data collected through 2017 support the following conclusions:

- Impact to the Site from offsite sources continues to be apparent in Zones A, B1, and B2. This continued migration of VOC-impacted groundwater onto the Site complicates long-term Site groundwater remediation.
- Based on the recent ESS evaluation and historical/current contaminant concentration data, Zone A well 38S, Zone B1 wells T-17B, T-4B, and T-9B, and Zone B2 well T-10C are significantly impacted by offsite sources.
- The EAB program and source area excavation activities have resulted in destruction of TCE mass associated with the former Site source area as evidenced by isotopic signatures for  $^{13}\text{C}$  enrichment across the Site (Figure 16).
- Geochemical conditions conducive to EAB are still present at the site; however, the low TOC concentrations and microbial populations do not support ongoing annual monitoring. Presence of Dhc populations, albeit at low detected counts in the wells sampled, provides evidence for the existence on-site of a viable ongoing mechanism for ongoing contaminant mass destruction. Therefore, annual EAB monitoring will be discontinued at the Site.

- Suspension of groundwater extraction at wells T-9A, T-9B, and T-2C has halted pumping-induced migration of the Philips 815 plume toward the Site.

Based on these conclusions, the following actions are recommended:

- Continue suspension of groundwater extraction at the Site and initiate regulatory process for changing the Site remedy (which is currently GWET based on the 1991 Record of Decision).
- Given the 2017 results and the amount of time since the last EAB injection, discontinue downgradient EAB monitoring in 2018.
- Because Zone A well 38S, Zone B1 wells T-17B, T-4B, and T-9B, and Zone B2 well T-10C are impacted by offsite sources and/or historical groundwater extraction activities, these wells should no longer be used to evaluate onsite contaminant concentration trends or effectiveness of onsite remediation.
- In addition, as recommended in the *Well Installation Report* (AECOM, 2018), Well T-9B should be destroyed, as this well allows mixing between multiple HSUs and is therefore not representative of contaminant flux across the site.
- Continue annual groundwater monitoring to 1) evaluate the long-term effects of the November 2014 source area excavation activities, 2) monitor the impacts from offsite sources, and 3) assess the need for additional remedial activities.

## 5.0 REFERENCES

AECOM, 2014a. Well Destruction and Source Removal Work Plan, Former TRW Microwave Facility, 825 Stewart Drive, Sunnyvale, California. November 12, 2014.

AECOM, 2014b. Work Plan for Additional Source Area Injection Activities, Former TRW Microwave Facility, 825 Stewart Drive, Sunnyvale, California. November 10, 2014.

AECOM, 2015a. Annual Groundwater Monitoring and Remedial Progress Report, Former TRW Microwave Facility, 825 Stewart Drive, Sunnyvale, California. February 6, 2015.

AECOM, 2015b. Technical Memorandum in Response to the 2014 Five-Year Review Report, Former TRW Microwave Site, 825 Stewart Drive, Sunnyvale, California. March 31, 2015.

AECOM, 2016a. Addendum to the Technical Memorandum in Response to the 2014 Five-Year Review Report, Former TRW Microwave Site, 825 Stewart Drive, Sunnyvale, California. January 25, 2016.

AECOM, 2016b. Background Water Quality Evaluation Report, Former TRW Microwave Site, 825 Stewart Drive, Sunnyvale, California. November 15, 2016.

AECOM, 2016a. Addendum to the Technical Memorandum in Response to the 2014 Five-Year Review Report, Former TRW Microwave Site, 825 Stewart Drive, Sunnyvale, California. January 25, 2016.

AECOM, 2016b. Background Water Quality Evaluation Report, Former TRW Microwave Site, 825 Stewart Drive, Sunnyvale, California. November 15, 2016.

AECOM, 2018. Well Installation Report, Former TRW Microwave Site, 825 Stewart Drive, Sunnyvale, California. May 3, 2018.

CDM, 1999. Letter to RWQCB regarding Interpretation of Groundwater TCE Data in B1 Zone, Former TRW Inc. Microwave Site, Sunnyvale, California. April 26, 1999.

CDM, 2000a. Evaluation of Natural Attenuation and Chemical Oxidation Report, Former TRW Microwave Facility. March 24, 2000.

CDM, 2000b. Work Plan – Enhanced Anaerobic Bioremediation Pilot Test. August 22, 2000.

CDM, 2000c. Letter to RWQCB regarding Request – Shutdown of Extraction Wells T-9B and T-2C. May 10, 2000.

CDM, 2001. Letter to RWQCB regarding Addendum to Work Plan for Enhanced Anaerobic Bioremediation Pilot Test. April 5, 2001.

CDM, 2004. Letter to Water Board regarding Destruction of Monitoring Wells T-1A and T-1B at the Former TRW Microwave Facility. February 11, 2004.

CDM, 2005. Addendum to Work Plan for Enhanced Anaerobic Bioremediation Pilot Test, Former TRW Microwave Facility, 825 Stewart Drive, Sunnyvale, California. July 20, 2005.

CDM, 2006. Revised Proposed Plan, Former TRW Microwave Facility, 825 Stewart Drive, Sunnyvale, California. April 11, 2006.

CDM, 2007. Work Plan for Additional Zone A Enhanced Anaerobic Bioremediation Activities, Former TRW Microwave Facility, 825 Stewart Drive, Sunnyvale, California. June 28, 2007.

Northrop Grumman, 2007. 2006 Annual Groundwater Monitoring Report, Former TRW Microwave Facility, January 31, 2007.

Northrop Grumman, 2010. 2009 Annual Groundwater Monitoring Report, Former TRW Microwave Facility, January 29, 2010.

Orion Environmental, Inc. 2015. Source Area Soil Removal Report, Former TRW Microwave Site, 825 Stewart Drive, Sunnyvale, California. March 20, 2015.

RWQCB, 1999. Letter to TRW regarding Revisions to Sampling and Reporting Schedule for TRW Facility. July 1, 1999.

RWQCB, 2000. Letter to TRW regarding Response to Request to Shut Down Extraction Wells T-9B and T-2C. November 9, 2000.

RWQCB, 2001a. Letter to TRW regarding Approval of Five-Year Status and Effectiveness Evaluation Report for the Former TRW Microwave Site. October 2, 2001.

RWQCB, 2001b. Letter to CDM regarding acceptance of March 22, 2001 letter requesting approval to relocate groundwater treatment system. March 29, 2001.

RWQCB, 2001c. Letter to TRW regarding Approval of Addendum to Work Plan for Enhanced Anaerobic Bioremediation Pilot Test. April 6, 2001.

RWQCB, 2004a. Letter to Northrop Grumman regarding Approval of Indoor Air Sampling Reports, EAB Summary Report, and Non-Pumping Conditions Report, Former TRW Microwave Facility. February 17, 2004.

RWQCB, 2004b. Submittal of Five-Year CERCLA Review for Eastern Sunnyvale TRW and AMD Superfund Sites, Sunnyvale, Santa Clara County, California. September 30, 2004.

RWQCB, 2005. Letter to Northrop Grumman regarding Approval of Addendum to Work Plan for Enhanced Anaerobic Bioremediation Pilot Test. July 27, 2005.

RWQCB, 2006. Letter to U.S. Environmental Protection Agency Region 9 regarding Concurrence with Revised Proposed Plan, TRW Microwave Facility. July 24, 2006.

RWQCB, 2007. Letter to Northrop Grumman regarding Approval of Work Plan for Additional Zone A Enhanced Anaerobic Bioremediation Activities. July 2, 2007.

USEPA, 2004. Five-Year Review Report for the TRW Microwave Superfund Site, Sunnyvale, CA. September 30, 2004.

USEPA, 2008. A Guide for Assessing Biodegradation and Source Identification of Organic Ground Water Contaminants using Compound Specific Isotope Analysis (CSIA). December 2008.

USEPA, 2014. Notice of Lead Agency Transfer – California Regional Board to US EPA; Triple Site: AMD 901/902 Thompson Place Superfund Site, Philips (formerly Signetics) Site, and TRW Microwave Superfund Site and Off-site Operable Unit, Sunnyvale, California. August 7, 2014.

## TABLES

**Table 1**  
**Well Completion and Sampling Information**  
**Former TRW Microwave Site**  
**825 Stewart Drive, Sunnyvale, California**

Well Number	Zone	Screen Interval (feet bgs)	Total Depth (feet bgs)	Top of Casing Elevation (feet, MSL)	U.S. EPA Test Method
EDUCTOR	A	8-16	16.5	42.24	Well Abandoned in 2014
T-1A	A	10-20	20	41.16	Well Abandoned in 2004
T-1B	B1	28-38	38	41.72	Well Abandoned in 2004
T-2A	A	10-20	20	42.16	Well Abandoned in 2014
T-2B	B1	23-33	33	42.23	Well Abandoned in 2014
T-2C	B2	51-59	59	41.38	Well Abandoned in 2014
T-3A	A	10-20	20	41.74	Well Abandoned in 2014
T-4B	B1	31.5-41.5	42	40.98	8260B
T-5B	B1	34.5-44.5	45	41.95	8260B
T-6A	A	10-20	20	39.92	-
T-7A	A	8-20	20	41.84	8260B
T-7B	B1	34-41	41	41.75	8260B
T-8A	A	8-19	19	40.48	8260B
T-8B	B1	24-36	36	40.43	8260B
T-8D	B4	90-102	102	38.83	Sampling Suspended in 2002
T-9A	A	7-19	19	39.3	8260B
T-9B	B1	28-37	37	31.56	8260B
T-9C	B3	55-65	65	38.82	8260B
T-10B	B1	23-32	32	40.13	8260B
T-10C	B2	49-59	60	39.46	8260B
T-11C	B2	46-56	56	38.78	8260B
T-12C	B2	45.5-55.5	56	40.84	8260B
T-13A	A	10-20	20	40.99	8260B
T-14A	A	10-20	20	40.81	8260B
T-15A	A	10-20	20	40.22	8260B
T-16A	A	10-20	20	40.12	8260B
T-17A	A	10-20	20	40.88	8260B
T-17B	B1	25-35	35	40.72	8260B
T-18A	A	12-22	22	41.20	8260B
T-18B	B1	41-46	46	41.41	8260B
T-19A	A	10-20	22	41.00	8260B
T-19B	B1	29-39	39	41.38	8260B
T-20A	A	7-17	20	40.86	8260B
T-20B	B1	22-27	27	40.65	8260B
T-21A	A	10-20	20	41.20	8260B
T-21B	B1	22-27	27	41.53	8260B
T-22A	A	10-20	20	NS	8260B
T-22B	B1	24-25	25	39.13	8260B
T-23A	A	10-20	20	41.44	8260B
T-23B	B1	27-30	30	39.28	8260B
T-24A	A	10-20	20	41.29	8260B
T-24B	B1	33-36	36	39.19	8260B
T-25A	A	10-20	20	40.26	8260B
36S	A	10-16	16	41.44	+
36D	A	15-20	20	41.26	+
36DD	B2	51.5-61.5	61.5	41.52	+
37S	A	9-15	15	42.01	+
38S	A	9-15	15	41.13	8260B

Notes:

- + = Sample collected and analyzed by AMD.
- \* Most wells were resurveyed January 15, 2018.
- MSL = mean sea level
- NS = not surveyed
- U.S. EPA = United States Environmental Protection Agency
- Top of casing elevations presented in NAVD88 (North American Vertical Datum 1988).
- Eductor screen interval and total depth revised based on September 2010 well videolog
- Top of casing elevation for Well T-10C resurveyed in 2015 after completion of well repairs.

**Table 2**  
**Water-Level Elevation Measurements - October 2017**  
**Former TRW Microwave Site**  
**825 Stewart Drive, Sunnyvale, California**

Well Number	Zone	Date Measured	Depth to Water (feet, BTOC)	Updated Top of Casing Elevation* (feet, MSL NAVD88)	Updated Water-Level Elevation (feet, MSL NAVD88)
T-1A	A			Destroyed	
T-2A	A			Destroyed	
T-3A	A			Destroyed	
T-6A	A	--	NM	39.92	--
T-7A	A	10/9/2017	6.80	41.84	35.04
T-8A	A	10/9/2017	6.72	40.48	33.76
T-9A	A	10/9/2017	6.93	39.30	32.37
T-13A	A	10/9/2017	7.03	40.99	33.96
T-14A	A	10/9/2017	6.94	40.81	33.87
T-15A	A	10/9/2017	6.82	40.22	33.40
T-16A	A	10/9/2017	6.97	40.12	33.15
T-17A	A	10/9/2017	7.25	40.88	33.63
T-18A	A	10/9/2017	7.47	41.20	33.73
T-19A	A	10/9/2017	7.25	41.00	33.75
T-20A	A	10/9/2017	7.06	40.86	33.80
T-21A	A	10/9/2017	7.31	41.20	33.89
T-22A	A	10/9/2017	7.29	NS	--
T-23A	A	10/9/2017	7.49	41.44	33.95
T-24A	A	10/9/2017	7.37	41.29	33.92
T-25A	A	10/9/2017	6.48	40.26	33.78
36S	A	10/9/2017	6.40	41.44	35.04
36D	A	10/9/2017	6.18	41.26	35.08
37S	A	10/9/2017	6.70	42.01	35.31
38S	A	10/9/2017	7.92	41.13	33.21
EDUCTOR	A			Destroyed	
T-1B	B1			Destroyed	
T-2B	B1			Destroyed	
T-4B	B1	10/9/2017	8.51	40.98	32.47
T-5B	B1	10/9/2017	8.41	41.95	33.54
T-7B	B1	10/9/2017	5.61	41.75	36.14
T-8B	B1	10/9/2017	6.71	40.43	33.72
T-9B	B1	10/9/2017	7.39	38.95	31.56
T-10B	B1	10/9/2017	6.88	40.13	33.25
T-17B	B1	10/9/2017	7.22	40.72	33.50
T-18B	B1	10/9/2017	5.29	41.41	36.12
T-19B	B1	10/9/2017	5.54	41.38	35.84
T-20B	B1	10/9/2017	5.26	40.65	35.39
T-21B	B1	10/9/2017	7.19	41.53	34.34
T-22B	B1	10/9/2017	6.63	39.13	32.50
T-23B	B1	10/9/2017	6.82	39.28	32.46
T-24B	B1	10/9/2017	7.64	39.19	31.55
T-2C	B2			Destroyed	
T-10C	B2	10/9/2017	8.12	39.46	31.34
T-11C	B2	10/9/2017	6.61	38.78	32.17
T-12C	B2	10/9/2017	5.99	40.84	34.85
36DD	B2	10/9/2017	5.22	41.52	36.30
T-9C	B3	10/9/2017	6.74	38.82	32.08
T-8D	B4	10/9/2017	1.63	40.46	38.83

**Notes:**

BTOC - below top of casing

MSL - mean sea level

NS - not surveyed

NAVD88 - North American Vertical Datum 1988

NM - not measured

\* Most resurveyed on January 15, 2018.

Table 3  
2017 Groundwater Volatile Organic Compound Results  
Former TRW Microwave Site  
825 Stewart Drive, Sunnyvale, California

Well	Zone	Sample Name	Sample Date	PCE (µg/L)	TCE (µg/L)	cDCE (µg/L)	tDCE (µg/L)	VC (µg/L)	1,1,1-TCA (µg/L)	1,1-DCE (µg/L)	1,1-DCA (µg/L)	Freon 113 (µg/L)	1,2-DCB (µg/L)	1,4-DCB (µg/L)	CBN (µg/L)
T-1A	A							Destroyed							
T-2A	A							Destroyed							
T-3A	A							Destroyed							
T-7A	A	J6038-T7A-101017-1	10/10/2017	<2.5	160	82	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
T-7A	Dup	J6038-T7A-101017-2	10/10/2017	<2.5	160	84	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
T-8A	A	J6038-T8A-101217	10/12/2017	0.60	45	110	1.7	6.0	<0.50	0.54	<0.50	<0.50	<0.50	<0.50	<0.50
T-9A	A	J6038-T9A-101017	10/10/2017	0.76	48	77	2.5	<0.50	<0.50	<0.50	<0.50	<0.50	2.3	<0.50	<0.50
T-13A	A	J6038-T13A-101117	10/11/2017	<0.50	41	81	3.4	11	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
T-14A	A	J6038-T14A-101117	10/11/2017	1.0	55	55	2.7	20	<0.50	<0.50	<0.50	<0.50	2.3	<0.50	<0.50
T-15A	A	J6038-T15A-101317	10/13/2017	1.8	110	62	2.5	<0.50	<0.50	0.62	<0.50	<0.50	1.4	<0.50	<0.50
T-16A	A	J6038-T16A-101017	10/10/2017	1.0	59	72	2.5	3.4	<0.50	0.51	<0.50	<0.50	1.2	<0.50	<0.50
T-17A	A	J6038-T17A-101217	10/12/2017	1.2	72	13	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
T-18A	A							Not sampled by AECOM - Not part of sampling and analysis plan							
T-19A	A	J6038-T19A-101117	10/11/2017	<0.50	<0.50	3.3	2.2	17	<0.50	<0.50	<0.50	<0.50	0.82	<0.50	<0.50
T-20A	A							Not sampled by AECOM - Not part of sampling and analysis plan							
T-21A	A							Not sampled by AECOM - Not part of sampling and analysis plan							
T-22A	A							Not sampled by AECOM - Not part of sampling and analysis plan							
T-23A	A	J6038-T23A-101117	10/11/2017	0.69 F1	78	55	1.3 F1	8.8 F1	<0.50 F1	<0.50 F1F2	<0.50	<0.50 F1F2	<0.50	<0.50	<0.50
T-25A	A	J6038-T25A-101317	10/13/2017	1.3	57	49	2.0	20	<0.50	<0.50	0.51	<0.50	2.8	<0.50	<0.50
36S <sup>(1)</sup>	A	--	10/19/2017	1.5	59	9.8	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	-	-
36D <sup>(1)</sup>	A	--	10/12/2017	< 0.50	4.2	2.2	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	-	-
38-S	A	J6038-38S-101217	10/12/2017	<0.50	61	170	1.5	6.7	<0.50	0.62	<0.50	1.4	<0.50	<0.50	<0.50
Eductor	A							Destroyed							
T-1B	B1							Destroyed							
T-2B	B1							Destroyed							
T-4B	B1	J6038-T4B-101317	10/13/2017	<0.50	5.2	650	2.7	0.62	<0.50	2.2	<0.50	<0.50	<0.50	<0.50	<0.50
T-5B	B1	J6038-T5B-101117-1	10/11/2017	<25	1500	54	<25	<25	<25	<25	<25	160	<25	<25	<25
T-5B	Dup	J6038-T5B-101117-2	10/11/2017	<50	1500	54	<50	<50	<50	<50	<50	170	<50	<50	<50
T-7B	B1	J6038-T7B-101117-01	10/11/2017	0.64	190	12	1.1	<0.50	<0.50	0.57	<0.50	4.1	2.0	<0.50	<0.50
T-7B	Dup	J6038-T7B-101117-02	10/11/2017	<5.0	190	9.7	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
T-8B	B1	J6038-T8B-101117	10/11/2017	<10	<10	420	<10	27	<10	<10	<10	<10	<10	<10	<10
T-9B	B1	J6038-T9B-101017	10/10/2017	1.7	310	260	3.5	2.1	<1.0	2.3	<1.0	1.0	<1.0	<1.0	<1.0
T-10B	B1	J6038-T10B-101017	10/10/2017	1.6	41	150	3.5	50	<0.50	0.94	0.65	<0.50	4.2	<0.50	<0.50
T-17B	B1	J6038-T17B-101217	10/12/2017	<5.0	210	370	<5.0	<5.0	<5.0	<5.0	<5.0	7.1	<5.0	<5.0	<5.0
T-18B	B1	J6038-T18B-101017	10/10/2017	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
T-19B	B1	J6038-T19B-101117	10/11/2017	<0.50	62	1.4	<0.50	<0.50	<0.50	<0.50	<0.50	1.1	<0.50	<0.50	<0.50
T-20B	B1	J6038-T20B-101017	10/10/2017	<5.0	230	280	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
T-21B	B1	J6038-T21B-101217	10/12/2017	<0.50	250	460	2.0	<0.50	<0.50	1.5	<0.50	16	<0.50	<0.50	<0.50
T-22B	B1	J6038-T22B-101317	10/13/2017	1.6	97	130	3.3	0.56	<0.50	0.83	<0.50	<0.50	3.0	<0.50	<0.50
T-23B	B1	J6038-T23B-101017	10/10/2017	1.3	86	100	2.7	0.64	<0.50	0.77	<0.50	<0.50	2.6	<0.50	<0.50
T-24B	B1	J6038-T24B-101317	10/13/2017	<0.50	63	130	1.4	4.0	<0.50	1.5	0.60	<0.50	<0.50	<0.50	<0.50
T-2C	B2							Destroyed							
T-10C	B2	J6038-T10C-101317	10/13/2017	<25	740	650	<25	<25	<25	<25	<25	140	<25	<25	<25
T-11C	B2	J6038-T11C-100917	10/9/2017	<0.50	310 H	26	0.84	2.8	<0.50	2.2	<0.50	10	<0.50	<0.50	<0.50
T-12C	B2	J6038-T12C-101317	10/13/2017	<0.50	140	6.3	0.86	<0.50	<0.50	1.3	<0.50	1.7	<0.50	<0.50	<0.50
36DD <sup>(1)</sup>	B2	--	10/12/2017	< 0.50	4.3	2.4	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	-	-
T-9C <sup>(2)</sup>	B3	J6038-T9C-101017	10/10/2017	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
T-8D	B4							Not sampled by AECOM - Water Board approval to discontinue sampling requirement for well							

Notes:

<sup>(1)</sup> Groundwater analytical data provided by AMD.

<sup>(2)</sup> This well has been redesignated as a Zone B3 well based on a detailed evaluation of the screen interval and lithology.

< Not detected at or above the detection limit shown  
µg/L micrograms per liter  
1,1,1-TCA 1,1,1-Trichloroethane  
1,1-DCA 1,1-Dichloroethane  
1,1-DCE 1,1-Dichloroethene  
1,2-DCB 1,2-Dichlorobenzene  
1,4-DCB 1,4-Dichlorobenzene  
CBN Chlorobenzene  
H sample was prepped or analyzed beyond the specified hold time  
F1 matrix spike and/or matrix spike duplicate recovery is outside acceptance limits  
F2 matrix spike/matrix spike duplicate relative percent difference exceeds control limits

cDCE cis-1,2-Dichloroethene  
Dup Duplicate sample  
J Estimated concentration. Compound detected between the detection limit and the reporting limit.  
PCE Tetrachloroethene  
tDCE trans-1,2-Dichloroethene  
TCE Trichloroethene  
Freon 113 Trifluorotrchloroethane  
VC Vinyl Chloride

**Table 4**  
**2017 Groundwater General Environmental Parameter Results**  
**Former TRW Microwave Site**  
**825 Stewart Drive, Sunnyvale, California**

Well	Date	Temperature (°C)	pH (SU)	Conductivity (µS/cm)	Turbidity (NTU)	Oxidation-Reduction Potential (mV)	Total Organic Carbon (mg/L)
Zone A Aquifer Wells							
T-7A	Oct-17	23.5	6.93	1,416	1	194.6	--
T-8A	Oct-17	22.0	6.94	1,404	1	59.6	0.99 J
T-9A	Oct-17	21.8	6.92	1,348	1	173.4	--
T-13A	Oct-17	20.3	6.93	1,400	2	153.4	0.52 J
T-14A	Oct-17	20.1	6.89	1,333	3	172.4	0.48 J
T-15A	Oct-17	22.2	6.88	1,329	3	154.6	--
T-16A	Oct-17	24.5	6.89	1,346	7	175.6	--
T-17A	Oct-17	20.2	6.98	1,315	4	144.6	0.53 J
T-19A	Oct-17	22.7	6.97	1,353	2	-31.0	1.3
T-23A	Oct-17	20.3	6.93	1,413	2	115.9	0.53 J
T-25A	Oct-17	21.7	6.89	1,330	5	173.8	0.46 J
38-S	Oct-17	23.2	6.98	1,333	10	105.6	0.58 J
Zone B1 Aquifer Wells							
T-2B	Destroyed						
T-4B	Oct-17	21.4	7.27	1,331	2	141.7	--
T-5B	Oct-17	20.8	7.23	1,103	1	217.6	--
T-7B	Oct-17	20.0	7.17	1,024	1	232.4	--
T-8B	Oct-17	20.9	7.04	1,347	9	137.6	--
T-9B	Oct-17	20.7	7.12	1,408	1	172.6	--
T-10B	Oct-17	23.6	6.89	1,420	2	146.2	--
T-17B	Oct-17	19.9	7.17	1,200	9	220.6	0.26 J
T-18B	Oct-17	22.2	7.58	784	66	93.6	--
T-19B	Oct-17	19.4	7.16	1,008	519	305.5	--
T-20B	Oct-17	22.3	7.11	1,480	42	139.6	--
T-21B	Oct-17	20.5	7.08	1,267	3	185.6	--
T-22B	Oct-17	21.4	6.96	1,337	4	137.4	--
T-23B	Oct-17	25.1	7.06	1,397	177	89.2	--
T-24B	Oct-17	20.7	7.33	1,270	183	128.6	--
Zone B2 Aquifer Wells							
T-2C	Destroyed						
T-10C	Oct-17	20.3	7.53	798	8	162.4	--
T-11C	Oct-17	22.7	7.37	895	1	90.3	--
T-12C	Oct-17	22.0	7.49	846	18	101.2	--
Zone B3 Aquifer Well							
T-9C	Oct-17	20.1	7.82	730	5	160.2	--

**Notes:**

°C = degree Celsius

SU = standard units

µS/cm = micro Siemens per centimeter

NTU = Nephelometric Turbidity Unit

mV = millivolts

mg/L = milligram per liter

-- = not analyzed/measured

**Table 5**  
**2017 Groundwater Electron Acceptor/Metabolic By-Product Results**  
**Former TRW Microwave Site**  
**825 Stewart Drive, Sunnyvale, California**

Well	Date	Electron Acceptors		Metabolic By-Products		
		Dissolved Oxygen (mg/L)	Sulfate (mg/L)	Methane (µg/L)	Ethane (µg/L)	Ethene (µg/L)
Zone A Aquifer Wells						
EDUCTOR		Destroyed				
T-2A		Destroyed				
T-3A		Destroyed				
T-7A	Oct-17	0.19	--	--	--	--
T-8A	Oct-17	0.10	180	30 n	0.019 Jn	0.054 Jn
T-9A	Oct-17	0.25	--	--	--	--
T-13A	Oct-17	0.15	180	170 n	0.021 Jn	0.57 n
T-14A	Oct-17	0.19	170	270 n	0.029 Jn	0.97 n
T-15A	Oct-17	0.13	--	--	--	--
T-16A	Oct-17	0.20	--	--	--	--
T-17A	Oct-17	0.15	150	530 n	0.42 n	0.15 n
T-19A	Oct-17	0.13	170	84 n	0.11 n	2.7 n
T-23A	Oct-17	0.19	190	560 n	1.1 n	0.68 n
T-25A	Oct-17	0.19	230	2.1 n	0.026 Jn	0.25 n
38-S	Oct-17	0.12	150	--	--	--
Zone B1 Aquifer Wells						
T-2B		Destroyed				
T-4B	Oct-17	0.29	--	--	--	--
T-5B	Oct-17	0.27	--	--	--	--
T-7B	Oct-17	0.33	--	--	--	--
T-8B	Oct-17	0.21	--	--	--	--
T-9B	Oct-17	0.31	--	--	--	--
T-10B	Oct-17	0.18	--	--	--	--
T-17B	Oct-17	0.16	130	49 n	1.0 n	0.096 Jn
T-18B	Oct-17	0.31	--	--	--	--
T-19B	Oct-17	0.29	--	--	--	--
T-20B	Oct-17	0.23	--	--	--	--
T-21B	Oct-17	0.17	--	--	--	--
T-22B	Oct-17	0.17	--	--	--	--
T-23B	Oct-17	0.38	--	--	--	--
T-24B	Oct-17	0.26	--	--	--	--
Zone B2 Aquifer Wells						
T-2C		Destroyed				
T-10C	Oct-17	0.34	--	--	--	--
T-11C	Oct-17	0.20	--	--	--	--
T-12C	Oct-17	0.29	--	--	--	--
Zone B3 Aquifer Well						
T-9C	Oct-17	0.45	--	--	--	--

**Notes:**

mg/L = milligram per liter

µg/L = microgram per liter

-- = not analyzed/measured

J = estimated value

n = Pace Analytical Laboratory does not have NELAP certification for this method.

**Table 6**  
**2017 Groundwater Microbial Results**  
**Former TRW Microwave Site**  
**825 Stewart Drive, Sunnyvale, California**

Well	Date	Microbial Population
		<i>Dehalococcoides</i> , sp.
		cells/mL
T-13A	10/11/2017	3.25E+01
T-19A	10/11/2017	1.56E+02
T-23A	10/11/2017	1.00E+02

Notes:  
cells/mL = cells per milliliter

## FIGURES

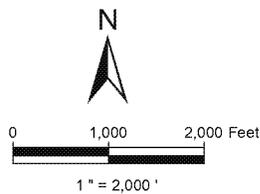


Site Location

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Former TRW Microwave Site

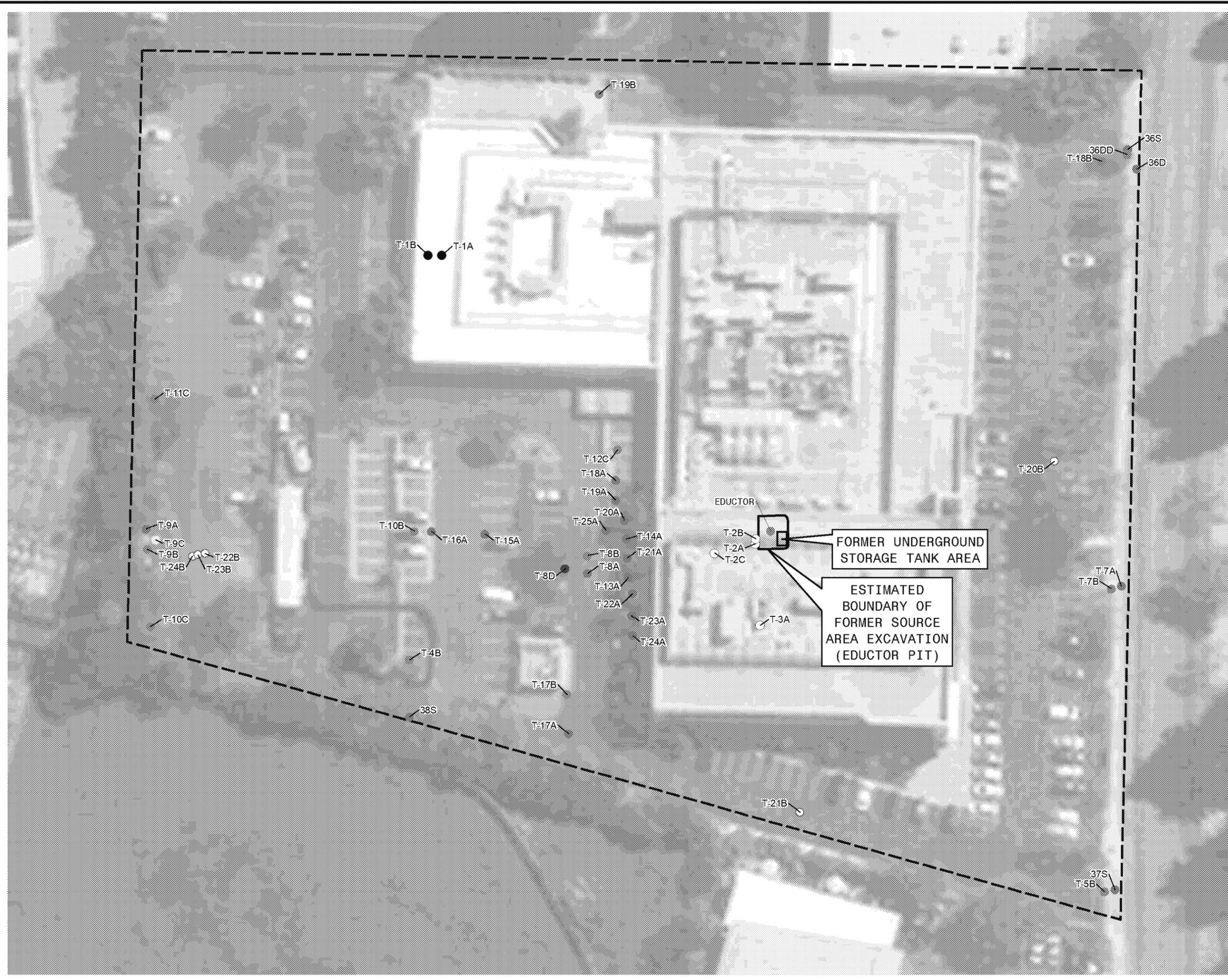
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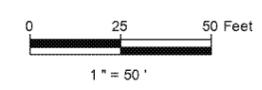
Date 02-2017  
Project No.  
60507543

**AECOM**

Figure  
1



- LEGEND**
- A-ZONE MONITORING WELL
  - B1-ZONE MONITORING WELL
  - B2-ZONE MONITORING WELL
  - B3-ZONE MONITORING WELL
  - B4-ZONE MONITORING WELL
  - EDUCTOR - DESTROYED 2014
  - NEWLY INSTALLED MONITORING WELL
  - MONITORING WELL - DESTROYED 2014
  - MONITORING WELL - DESTROYED 2004
  - - - PROPERTY BOUNDARY



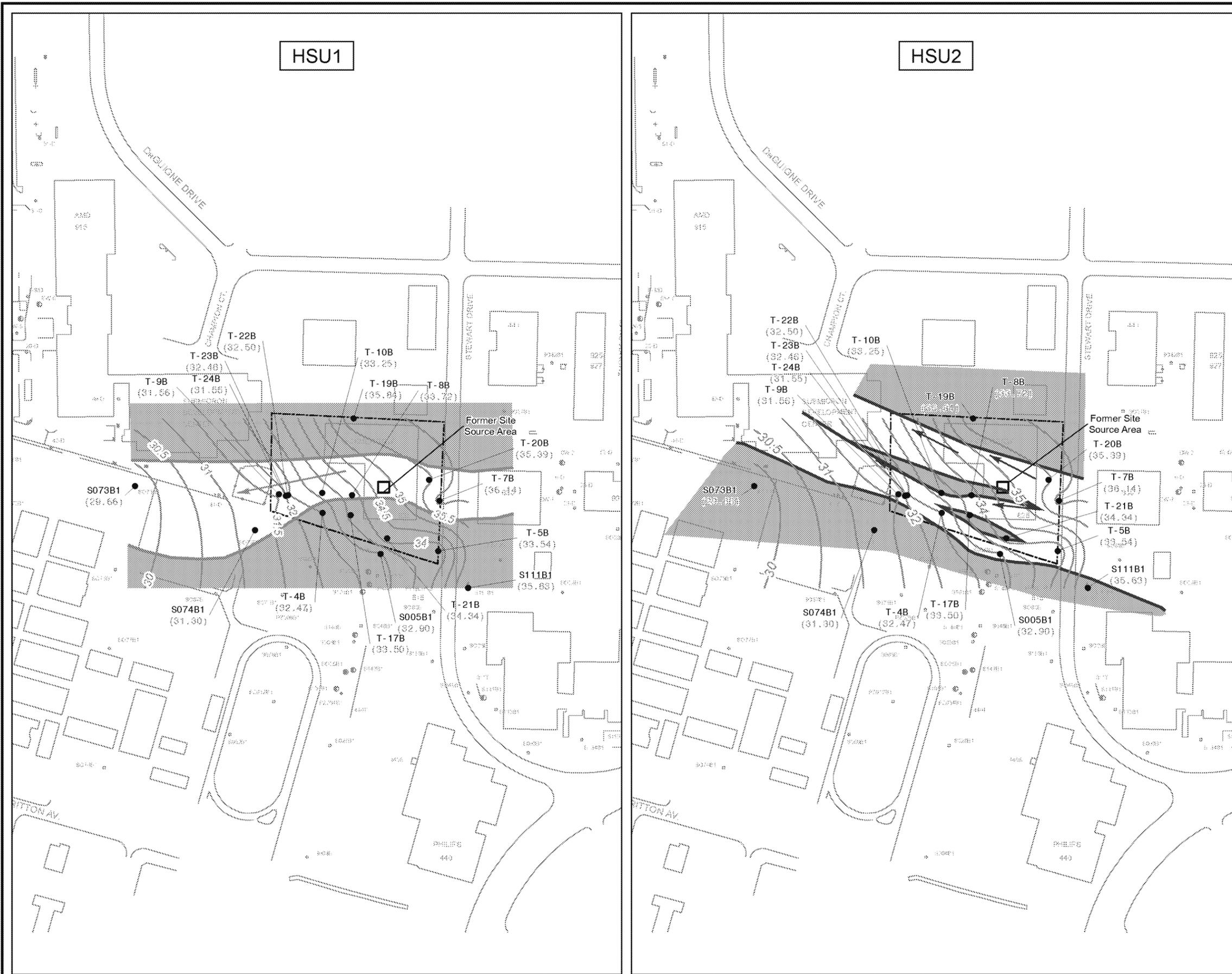
Former TRW Microwave Site  
**Site Layout and Well Locations**

Date 03-2018	<b>AECOM</b>	Figure 2
Project No. 60536411		

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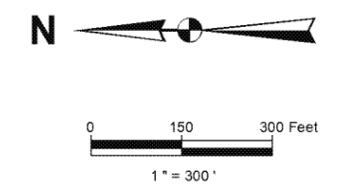


**LEGEND**

- INDICATES APPROXIMATE LOCATION OF ZONE B1 MONITORING WELL
- INDICATES APPROXIMATE LOCATION OF ZONE B1 EXTRACTION WELL
- (33.02) INDICATES WATER-LEVEL ELEVATION IN ZONE B1 MONITORING WELL (FEET, MSL) IN OCTOBER 2017
- INDICATES APPROXIMATE POTENTIOMETRIC SURFACE CONTOUR IN ZONE B1 IN OCTOBER 2017
- ▨ HSU1 (10-20 FEET, MSL)
- ▨ HSU2 (0-10 FEET, MSL)
- HSU1 APPROXIMATE GROUNDWATER FLOW DIRECTION
- ← HSU2 APPROXIMATE GROUNDWATER FLOW DIRECTION
- ▨ LOW PERMEABILITY MATERIAL

**ABBREVIATION**

HSU HYDROSTRATIGRAPHIC UNIT  
MSL MEAN SEA LEVEL



**Former TRW Microwave Site  
Potentiometric Surface Contours  
Zone B1 HSUs 1 and 2  
October 2017**

Date	04-2018	Figure
Project No.	<b>AECOM</b>	5
60507543		

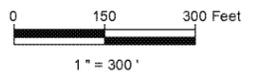


**LEGEND**

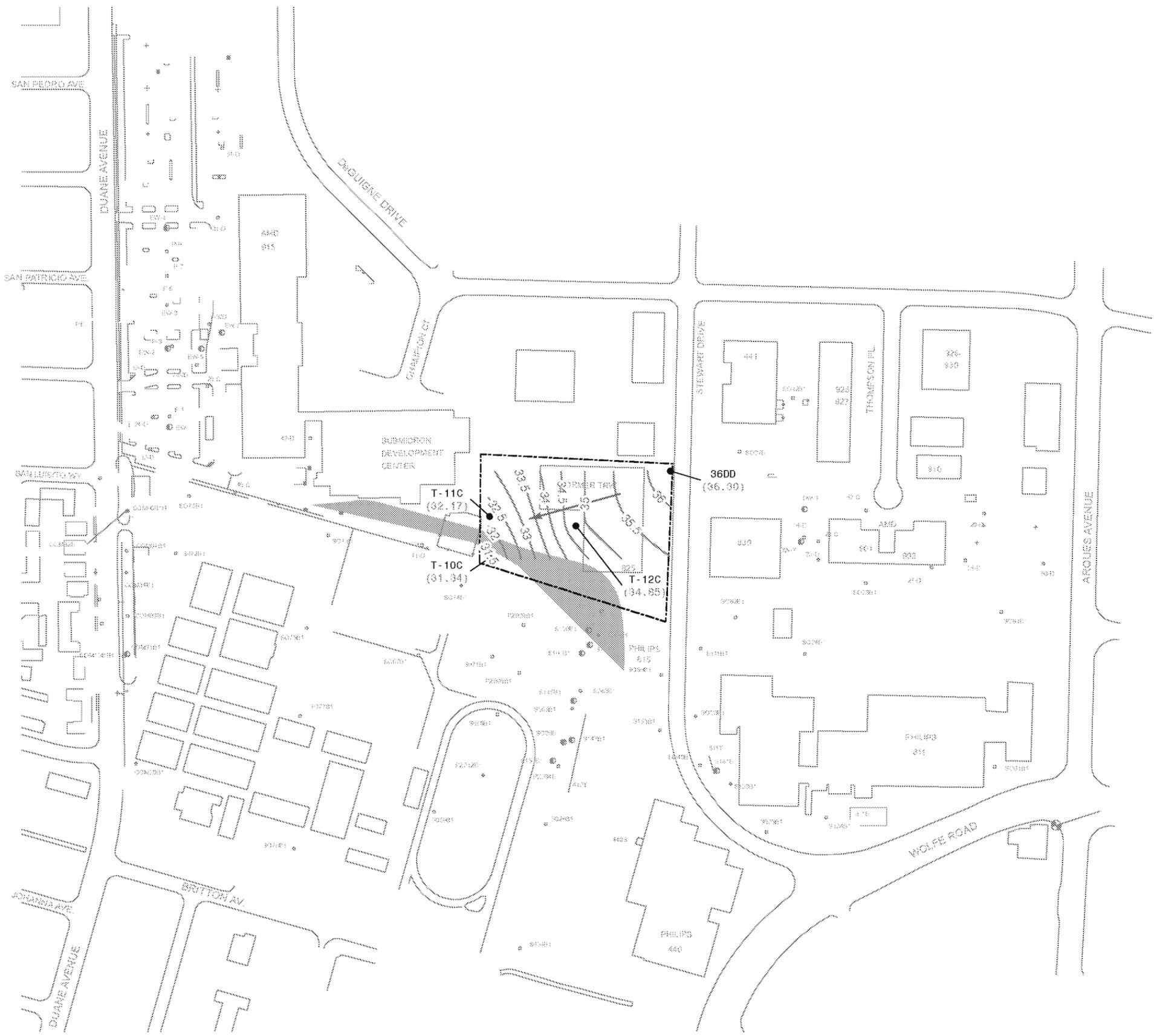
- INDICATES APPROXIMATE LOCATION OF ZONE B1 MONITORING WELL
- INDICATES APPROXIMATE LOCATION OF ZONE B1 EXTRACTION WELL
- (33.02) INDICATES WATER-LEVEL ELEVATION IN ZONE B1 MONITORING WELL (FEET, MSL) IN OCTOBER 2017
- INDICATES APPROXIMATE POTENTIOMETRIC SURFACE COUNTOUR IN ZONE B1 IN OCTOBER 2017
- ← APPROXIMATE GROUNDWATER FLOW DIRECTION
- ▨ LOW PERMEABILITY MATERIAL

**ABBREVIATION**

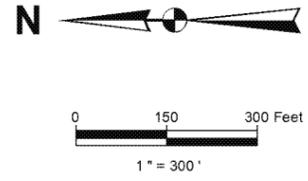
- MSL MEAN SEA LEVEL
- HSU HYDROSTRATIGRAPHIC UNIT



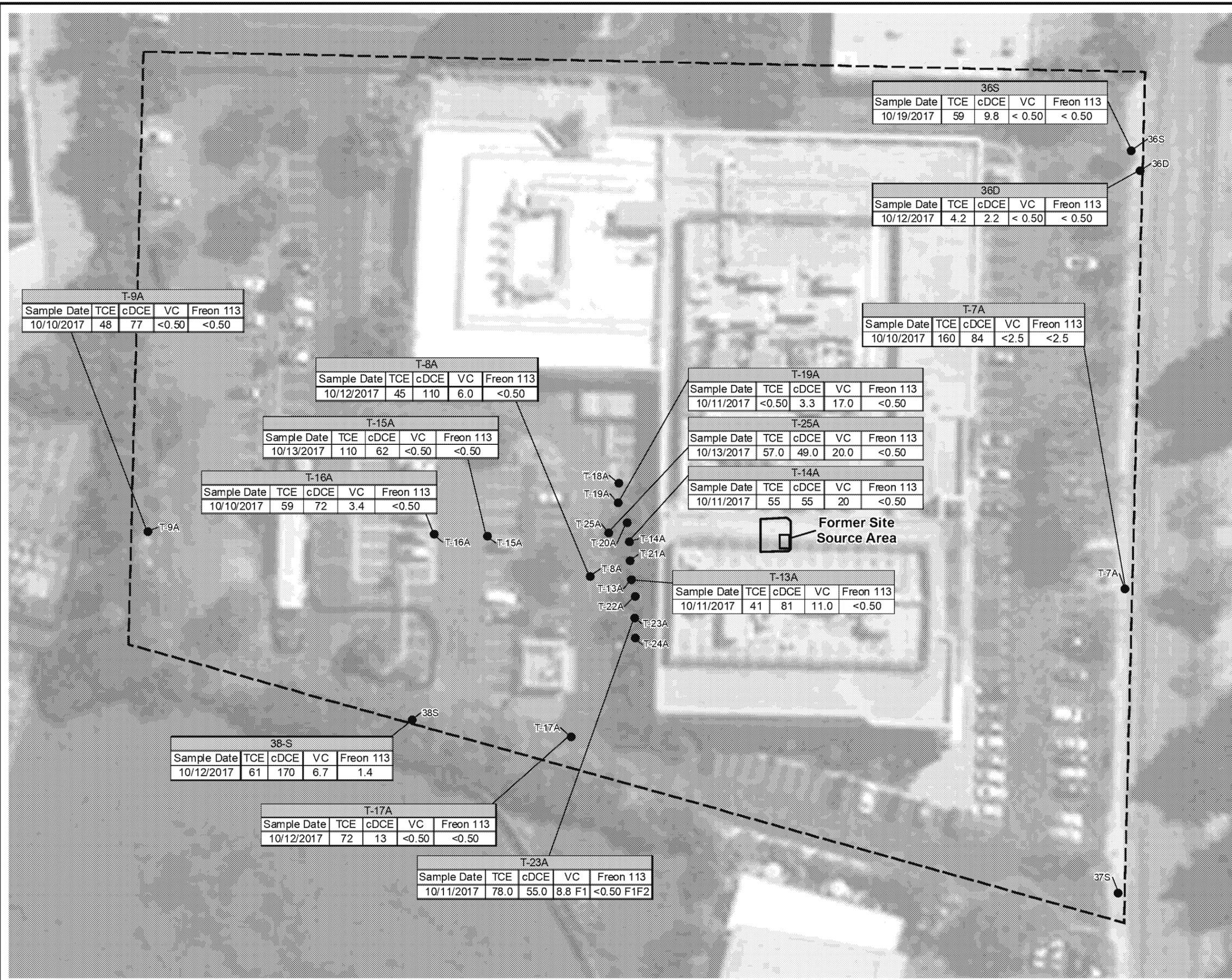
<p>Former TRW Microwave Site          Potentiometric Surface Contours          Zone B1 - HSU3          October 2017</p>		
<p>Date 04-2018</p>		<p>Figure 6</p>
<p>Project No. 60507543</p>		



- LEGEND**
- INDICATES APPROXIMATE LOCATION OF ZONE B2 MONITORING WELL
  - INDICATES APPROXIMATE LOCATION OF ZONE B2 EXTRACTION WELL
  - (33.02) INDICATES WATER-LEVEL ELEVATION IN ZONE B2 MONITORING WELL (FEET, MSL) IN OCTOBER 2017
  - INDICATES APPROXIMATE POTENTIOMETRIC SURFACE COUNTOUR IN ZONE B2 IN OCTOBER 2017
  - ← APPROXIMATE GROUNDWATER FLOW DIRECTION
  - ▨ LOW PERMEABILITY MATERIAL
- ABBREVIATION**
- MSL MEAN SEA LEVEL
  - HSU HYDROSTRATIGRAPHIC UNIT



Former TRW Microwave Site Potentiometric Surface Contours Zone B2 October 2017		
Date 09-2018	<b>AECOM</b>	Figure
Project No. 60507543		7



**LEGEND**

- A-ZONE MONITORING WELL
- - - PROPERTY BOUNDARY

**NOTES**

- cDCE CIS-1,2-DICHLOROETHENE
- Freon 113 TRIFLUOROTRICHOROETHANE
- TCE TRICHLOROETHENE
- VC VINYL CHLORIDE

T-9A					
Sample Date	TCE	cDCE	VC	Freon 113	
10/10/2017	48	77	<0.50	<0.50	

T-8A					
Sample Date	TCE	cDCE	VC	Freon 113	
10/12/2017	45	110	6.0	<0.50	

T-15A					
Sample Date	TCE	cDCE	VC	Freon 113	
10/13/2017	110	62	<0.50	<0.50	

T-16A					
Sample Date	TCE	cDCE	VC	Freon 113	
10/10/2017	59	72	3.4	<0.50	

T-19A					
Sample Date	TCE	cDCE	VC	Freon 113	
10/11/2017	<0.50	3.3	17.0	<0.50	

T-25A					
Sample Date	TCE	cDCE	VC	Freon 113	
10/13/2017	57.0	49.0	20.0	<0.50	

T-14A					
Sample Date	TCE	cDCE	VC	Freon 113	
10/11/2017	55	55	20	<0.50	

T-13A					
Sample Date	TCE	cDCE	VC	Freon 113	
10/11/2017	41	81	11.0	<0.50	

36S					
Sample Date	TCE	cDCE	VC	Freon 113	
10/19/2017	59	9.8	< 0.50	< 0.50	

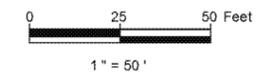
36D					
Sample Date	TCE	cDCE	VC	Freon 113	
10/12/2017	4.2	2.2	< 0.50	< 0.50	

T-7A					
Sample Date	TCE	cDCE	VC	Freon 113	
10/10/2017	160	84	<2.5	<2.5	

38-S					
Sample Date	TCE	cDCE	VC	Freon 113	
10/12/2017	61	170	6.7	1.4	

T-17A					
Sample Date	TCE	cDCE	VC	Freon 113	
10/12/2017	72	13	<0.50	<0.50	

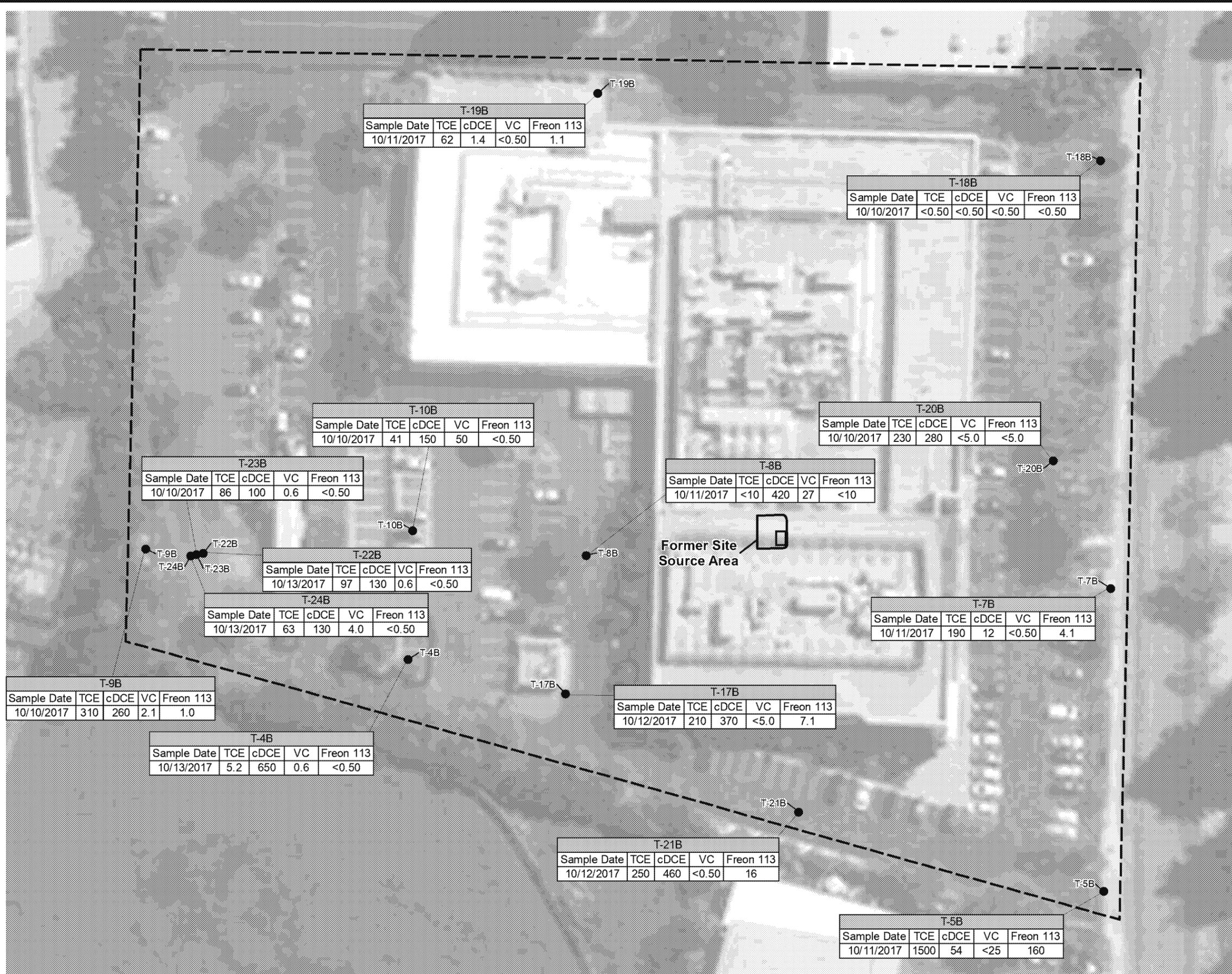
T-23A					
Sample Date	TCE	cDCE	VC	Freon 113	
10/11/2017	78.0	55.0	8.8 F1	<0.50 F1F2	



Background Study Work Plan

VOC Results  
Zone A

Date 03-2018	<b>AZCOM</b>	Figure
Project No. 60536411		8

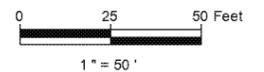


**LEGEND**

- B1-ZONE MONITORING WELL
- - - PROPERTY BOUNDARY

**NOTES**

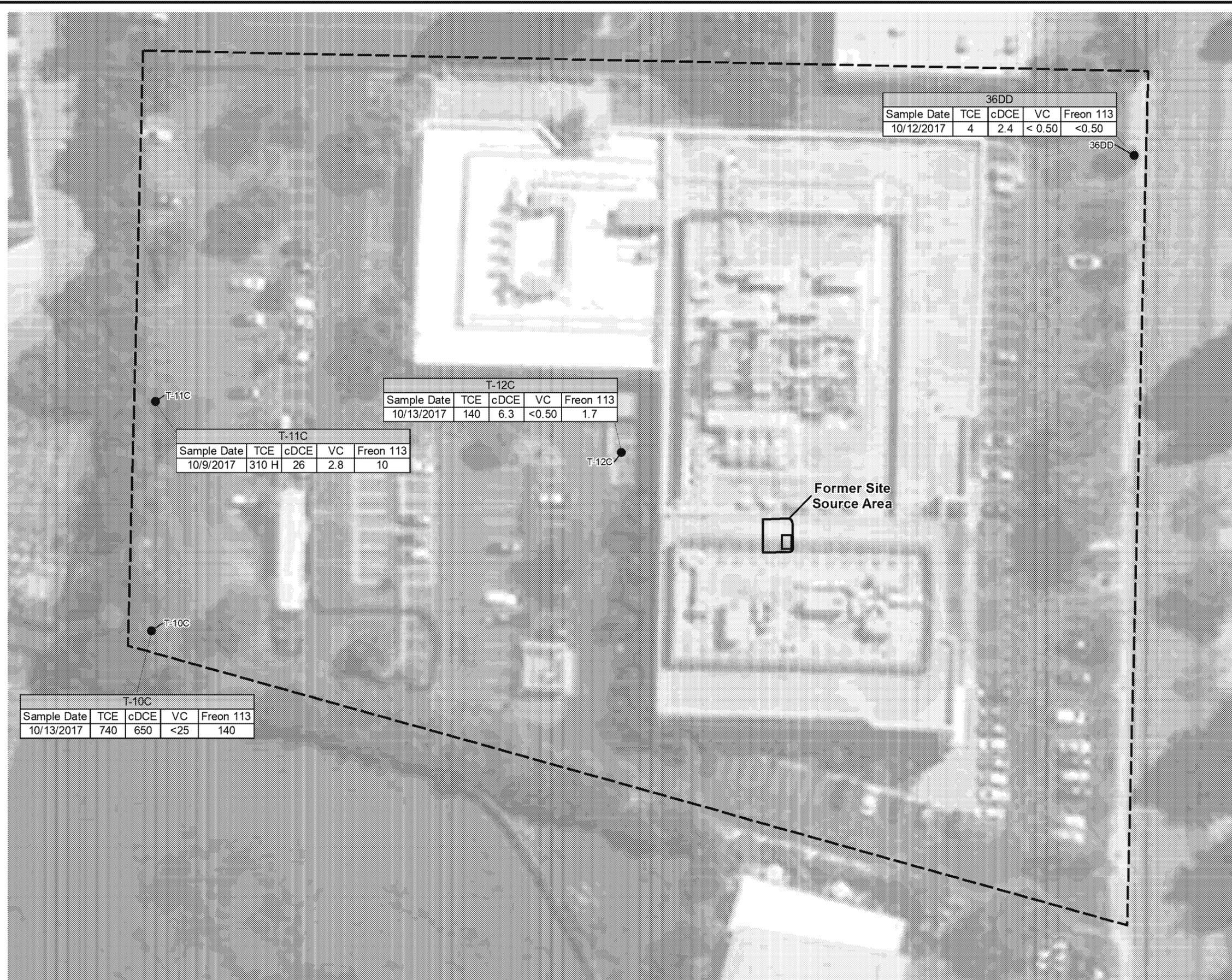
- cDCE CIS-1,2-DICHLOROETHENE
- Freon 113 TRIFLUOROTRICHOROETHANE
- TCE TRICHLOROETHENE
- VC VINYL CHLORIDE



Background Study Work Plan

**VOC Results  
Zone B1**

Date 03-2018	<b>AECOM</b>	Figure
Project No. 60536411		9



36DD				
Sample Date	TCE	cDCE	VC	Freon 113
10/12/2017	4	2.4	< 0.50	<0.50

T-12C				
Sample Date	TCE	cDCE	VC	Freon 113
10/13/2017	140	6.3	<0.50	1.7

T-11C				
Sample Date	TCE	cDCE	VC	Freon 113
10/9/2017	310 H	26	2.8	10

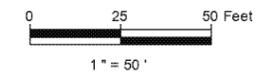
T-10C				
Sample Date	TCE	cDCE	VC	Freon 113
10/13/2017	740	650	<25	140

**LEGEND**

- B2-ZONE MONITORING WELL
- - - PROPERTY BOUNDARY

**NOTES**

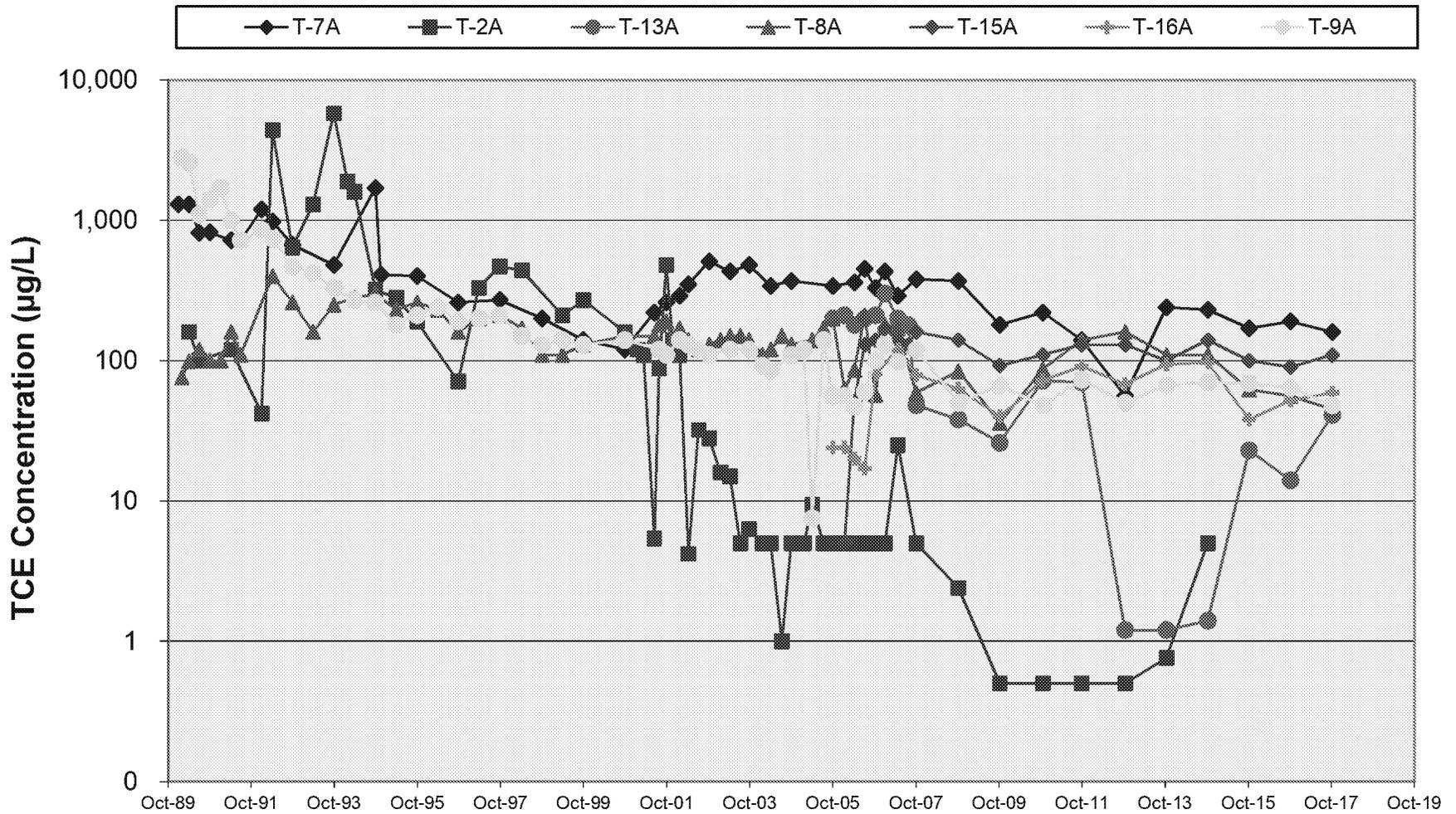
- cDCE CIS-1,2-DICHLOROETHENE
- Freon 113 TRIFLUOROTRICHOROETHANE
- TCE TRICHLOROETHENE
- VC VINYL CHLORIDE



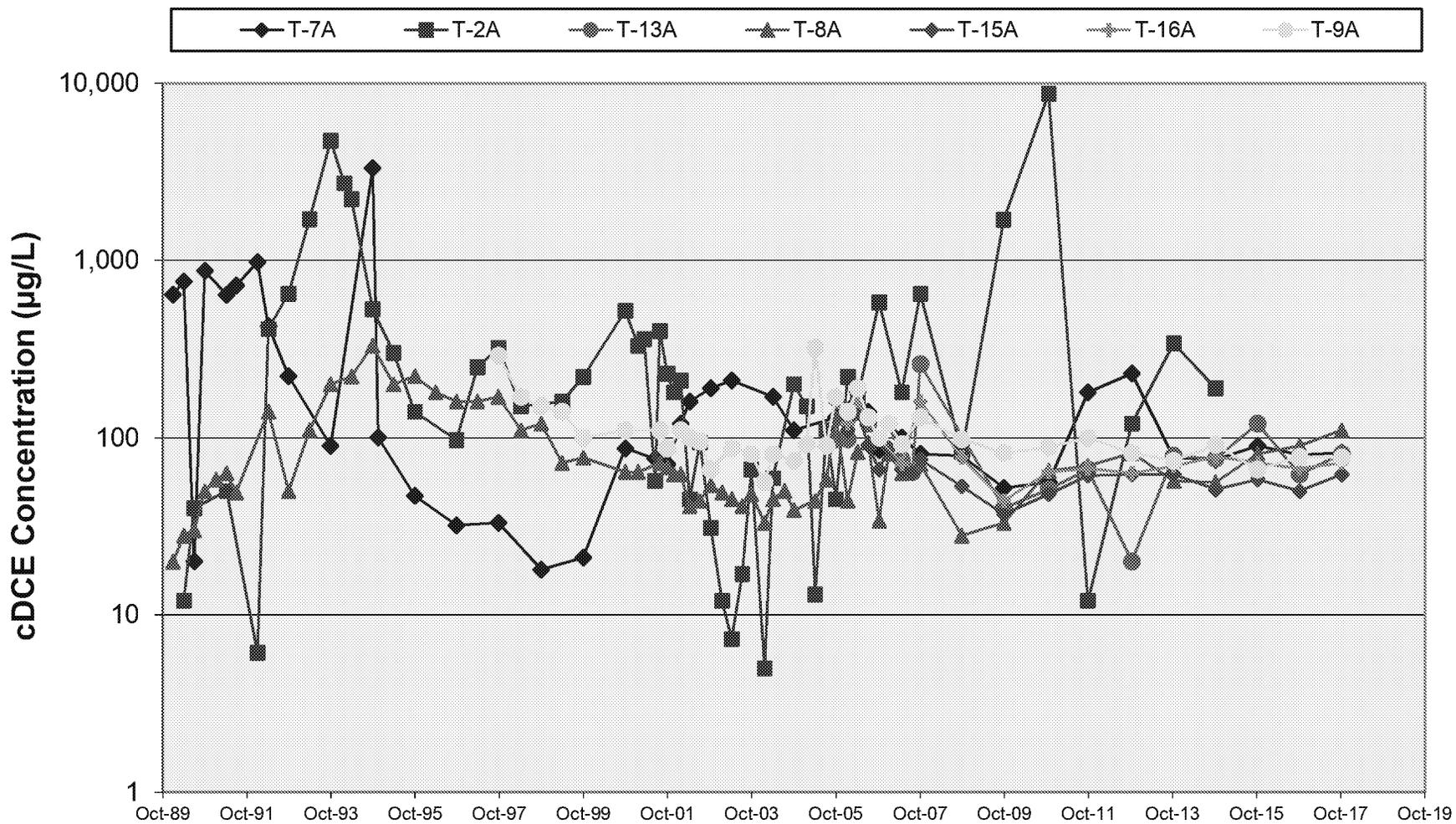
Background Study Work Plan

VOC Results  
Zone B2

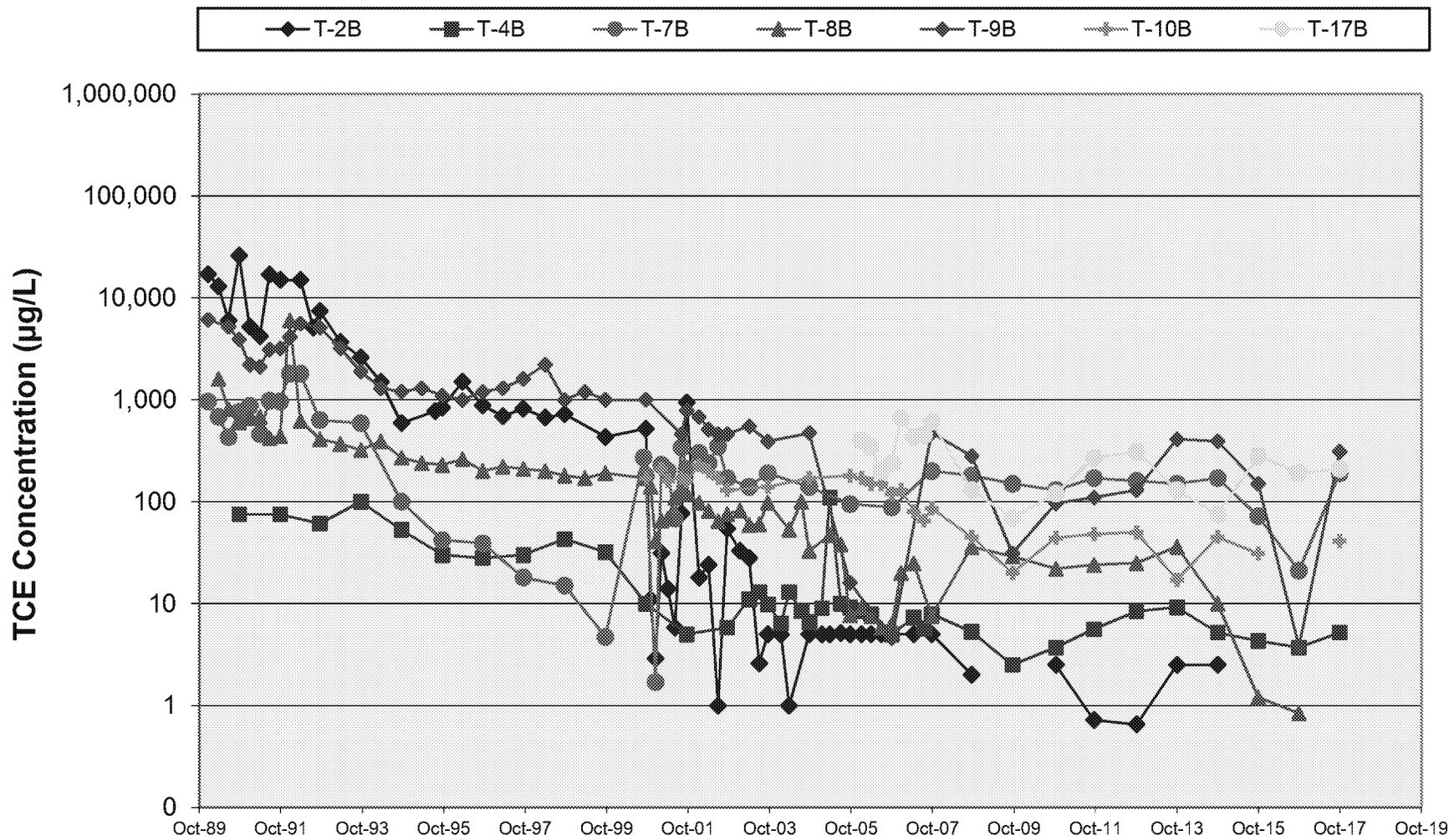
Date 03-2018	<b>AECOM</b>	Figure
Project No. 60536411		5



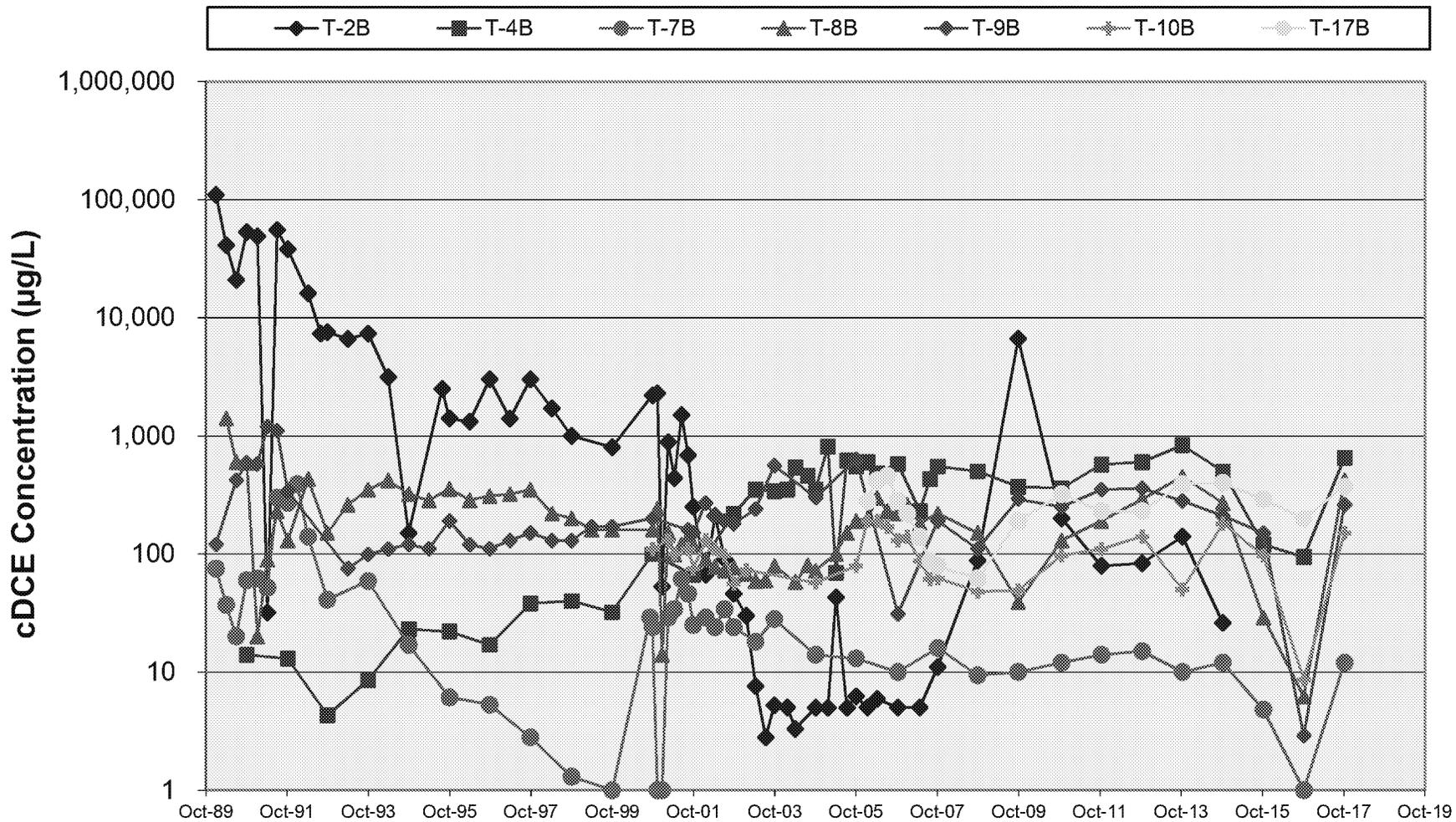
	Former TRW Microwave Site	<b>TCE Concentrations vs. Time - Wells T-2A, T-7A, T-8A, T-9A, T-13A, T-15A, and T-16A</b>	<b>FIGURE 11</b>
	Note: For non-detects less than 5 µg/L, detection limit is presented for the data point. For non-detects greater than 5 µg/L, the data point has been omitted from the figure.		



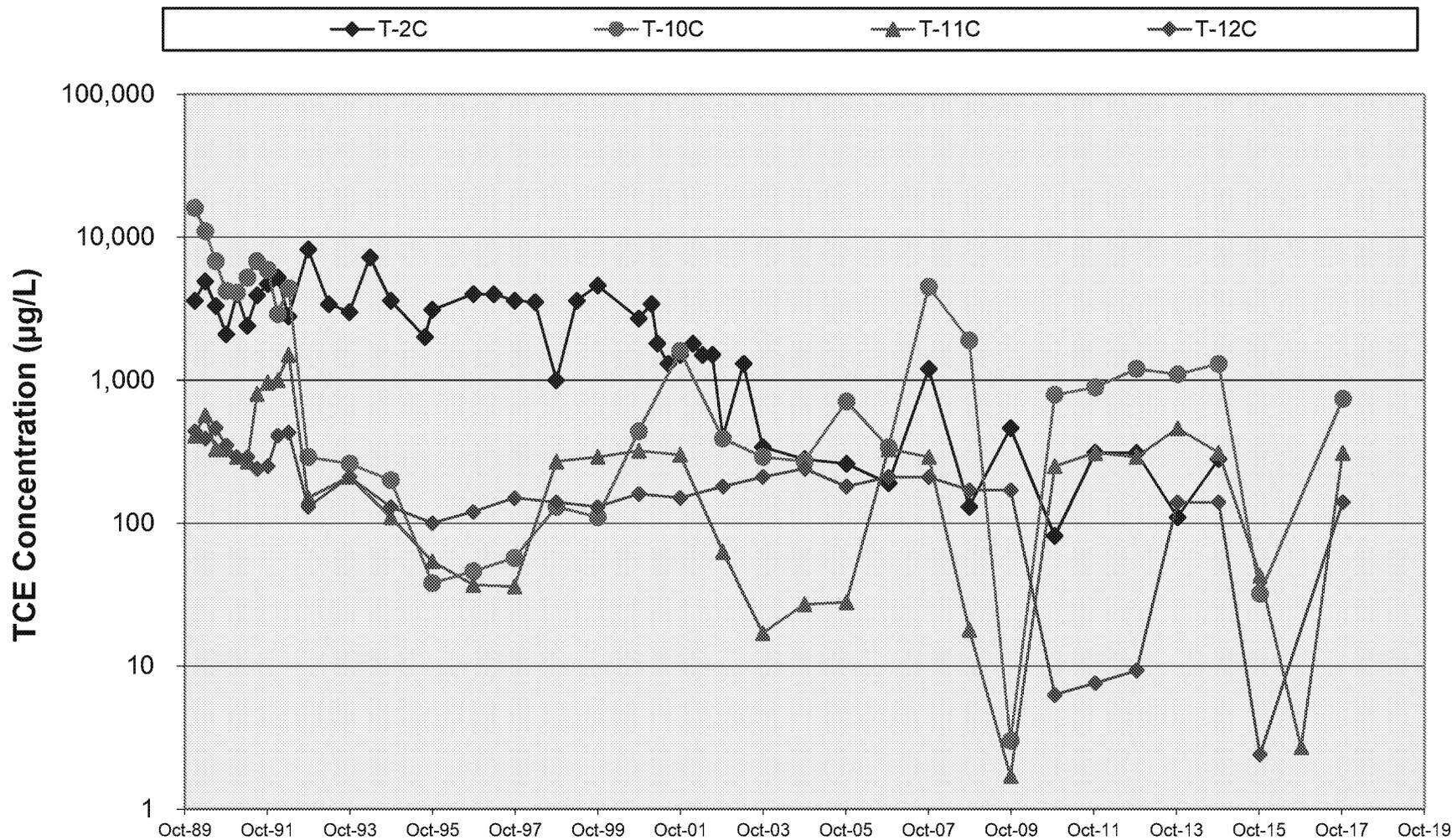
	Former TRW Microwave Site	<b>cDCE Concentrations vs. Time - Wells T-2A, T-7A, T-8A, T-9A, T-13A, T-15A, and T-16A</b>	<b>FIGURE 12</b>
	Note: For non-detects less than 5 µg/L, detection limit is presented for the data point. For non-detects greater than 5 µg/L, the data point has been omitted from the figure. Data reported as total 1,2-DCE prior to 1996.		



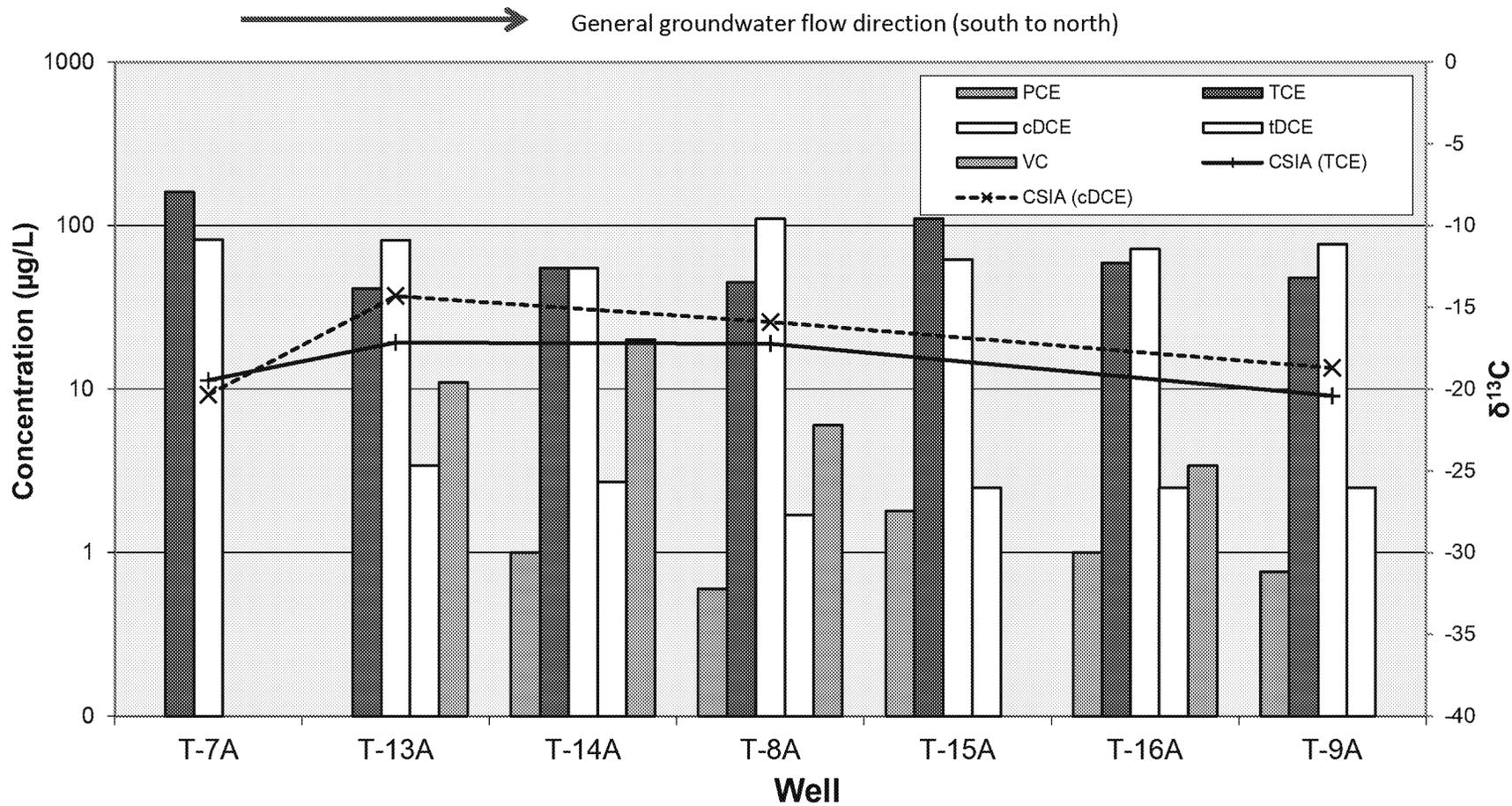
	Former TRW Microwave Site <b>TCE Concentrations vs. Time - Wells T-2B, T-4B, T-7B, T-8B,          T-9B, T-10B, and T-17B</b>	<b>FIGURE 13</b>
	Note: For non-detects less than 5 µg/L, detection limit is presented for the data point. For non-detects greater than 5 µg/L, the data point has been omitted from the figure.	



	Former TRW Microwave Site	<b>cDCE Concentrations vs. Time - Wells T-2B, T-4B, T-7B, T-8B, T-9B, T-10B, and T-17B</b> Note: For non-detects less than 5 µg/L, detection limit is presented for the data point. For non-detects greater than 5 µg/L, the data point has been omitted from the figure. Data reported as total 1,2-DCE prior to 1996.	<b>FIGURE 14</b>



	Former TRW Microwave Site <b>TCE Concentrations vs. Time - Wells T-2C, T-10C,          T-11C, and T-12C</b>	<b>FIGURE 15</b>
	Note: For non-detects less than 5 µg/L, detection limit is presented for the data point. For non-detects greater than 5 µg/L, the data point has been omitted from the figure.	



Note: Groundwater flow direction is generally along the wells listed above, from south to north, from onsite well T-7A to well T-9A.

	Former TRW Microwave Site	
	<b>Chlorinated Ethene Concentrations, Zone A - October 2017</b>	<b>FIGURE 16</b>

## APPENDICES

## **Appendix A**

### **Standard Groundwater Sampling Procedures and Low-Flow Sampling Logs**

## STANDARD GROUNDWATER SAMPLING PROCEDURES

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Prior to purging the wells, static groundwater levels are measured in all wells. A clean electronic sounder is used to measure the depth to water below the top of each well casing to the nearest 0.01 foot. Where previous data indicate the presence or likely presence, an interface probe is used to monitor the presence and thickness of light or dense non-aqueous phase liquid (LNAPL/DNAPL).

Each monitoring well is micro-purged with a low-flow peristaltic pump until environmental parameters stabilize prior to sampling. For monitoring wells where the sampling depth is greater than 27 feet below ground surface, a bladder pump is used for micro-purging. During the micro-purging, the purge flow rate is adjusted to match the rate at which the well produces water (the yield rate). Measurements of environmental parameters, including pH, specific conductivity, temperature, dissolved oxygen, turbidity, and oxidation-reduction potential, are recorded at periodic intervals during the purging of all wells. Water-level measurement, well purging, and well sampling data are recorded for each well on water purging logs. Copies of the logs are included in this appendix.

Groundwater samples are collected immediately after purging from each well through new or dedicated tubing. The samples are slowly transferred to new sample containers supplied by the analytical laboratory for each specific analysis. Volatile organic analysis vials are filled in a manner such that no headspace exists. Each sample is logged on a chain-of-custody form that accompanies the samples. The samples are then stored in a clean portable ice chest and cooled with ice until delivery to the analytical laboratory.

Monitoring equipment is decontaminated between use in each well using a non-phosphate detergent wash followed by two deionized water rinses. Wastewater, generated from decontamination activities, is collected in 55-gallon drums. The drummed wastewater is then stored onsite for later disposal or treatment.

Field quality assurance/quality control (QA/QC) procedures are employed during each monitoring event to document that the sampling results meet accepted QA/QC standards. The QA/QC samples collected in the field include blind duplicates and trip blanks. Additional QA/QC procedures employed in the field include sequencing the sampling in such a manner that the wells with the lowest levels of contamination are monitored/sampled prior to those with the highest levels.

## WELL GAUGING DATA

Project # 171009-MMI Date 10-9-17 Client AECOM

Site 825 Stewart Dr. Sunnyvale CA

Well ID	Time	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or TOC	Notes
T-8D	0740	4					1.63	100.50		
T-18A	0744	1					7.47	19.78		
<del>T-18B</del>										
T-19A	0750	1					7.25	20.97		
T-12C	0807	2					5.99	55.02		
T-25A	0811	1					6.48	18.95		
T-20A	0814	1					7.06	15.97		
T-14A	0818	1					6.94	17.95		
T-21A	0825	1					7.31	17.89		
T-13A	0829	1					7.03	18.84		
T-22A	0831	1					7.29	18.10		
T-23A	0836	1					7.49	17.96		
T-24A	0841	1					7.37	19.05		
T-8A	0845	4					6.72	15.38		
T-8B	0850	4					6.71	35.12		
T-15A	0854	1					6.82	19.17		
T-17B	0900	1					7.22	34.50	✓	

## WELL GAUGING DATA

Project # 171009-MM1 Date 10-9-17 Client AECOM

Site 825 Stewart Dr. Sunnyvale CA

Well ID	Time	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or TOC	Notes
T-17A	0909	2					7.25	20.24	↑	
T-4B	0917	4					8.51	39.32		
38S	1310	4					7.92	14.46		
T-22B	0930	2					6.63	24.40		
T-23B	0932	2					6.82	29.10		
T-24B	0935	2					7.64	35.42		
T-9C	0944	4					6.74	43.55		
T-9A	0954	4					6.93	18.37		
T-9B	0950	4					7.39	34.32		
T-11C	0959	4					6.61	55.60		
T-16A	1020	1					6.97	18.66		
T-10B	1015	2					6.88	25.15		
T-21B	1031	2					7.19	27.37		
T-19B	1027	2					5.54	39.30		
T-18B	1040	2					5.29	47.28		
36D	1057	4					6.18	20.15		
36DD	1050	4					5.22	55.12	↓	

## WELL GAUGING DATA

Project # 171009-MMI Date 10-9-17 Client AECOM

Site 825 Stewart Dr. Sunnyvale CA

Well ID	Time	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or TOC	Notes
36S	1044	4					6.40	6.74	↓	
T-7A	1117	4				6.80	18.80			
T-7B	1111	4				5.61	41.67			
T-20B	1120	2				5.26	27.05			
37S	1126	4				6.70	13.13			
T-10C	1138	4				8.12	57.40			
T-5B	1145	4				8.41	43.05			

Former TRW Microwave Facility October 2017 Water Level Form				
Sequence	Well	Water Level (feet bTOC)	Date	Time
1	T-8DD	1.63	10-9-17	0745
2	T-18A	7.47		0745
3	T-18B	5.29		1040
4	T-19A	7.25		0750
5	T-19B	5.54		1027
6	36D	6.18		1057
7	36DD	5.22		1050
8	T-22A	7.29		0831
9	T-23A	7.49		0836
10	T-24A	7.37		0841
11	T-8A	6.72		0845
12	T-10B	6.88		1015
13	T-20A	7.06		0814
14	T-14A	6.94		0818
15	T-21A	7.31		0825
16	37S	6.70		1135
17	36S	6.40		1044
18	T-17A	7.25		0909
19	T-25A	6.48		0811
20	T-13A	7.03		0829
21	T-9C	6.74		0944
22	T-16A	6.97		1620
23	38S	7.92		1316
24	T-9A	7.37		0847
25	T-15A	6.82		0854
26	T-8B	6.71		0850
27	T-7B	5.61		1111
28	T-12C	5.99		0807
29	T-7A	6.80		1117
30	T-11C	6.61		0959
31	T-4B	8.51		0917
32	T-20B	5.26		1125
33	T-21B	7.19		1631
34	T-22B	6.63		0930
35	T-23B	6.82		0932
36	T-24B	7.64		0935
37	T-9B	7.39		0950
38	T-17B	7.22		0900
39	T-5B	8.41		1145
40	T-10C	8.12	✓	1138

OTW: 6.93 @ 0954

## LOW FLOW WELL MONITORING DATA SHEET

Project #: 171009-M/M1	Client: AECOM
Sampler: M/M	Gauging Date: 10-13-17
Well I.D.: T-4B	Well Diameter (in.): 2 3 <u>4</u> 6 8
Total Well Depth (ft.): 39.32	Depth to Water (ft.): 8.37
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	Flow Cell Type: YSI PRO PLUS

Purge Method: 2" Grundfos Pump      Peristaltic Pump      Bladder Pump  
 Sampling Method: Dedicated Tubing      New Tubing      Other \_\_\_\_\_

Start Purge Time: 1021      Flow Rate: 200 mL/min      Pump Depth: 35.5' 31.5-41.5'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or μS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
1024	21.3	7.59	1151	8	2.24	209.9	600	8.37 clear
1027	21.7	7.36	1301	6	0.68	195.7	1200	8.40
1030	21.3	7.31	1325	4	0.47	183.4	1800	8.44
1033	21.4	7.29	1328	2	0.38	165.6	2400	8.47
1036	21.3	7.28	1329	2	0.32	155.8	3000	8.49
1039	21.4	7.27	1330	2	0.30	146.0	3600	8.51
1042	21.4	7.27	1331	2	0.29	141.7	4200	8.54 ↓

Did well dewater? Yes No      Amount actually evacuated: 4200 mL

Sampling Time: 1043      Sampling Date: 10-13-17

Sample I.D.: J6038-T4B-101317      Laboratory: TA/PACB

Analyzed for:      TPH-G    BTEX    MTBE    TPH-D      Other: see COC

Equipment Blank I.D.:      @      Time      Duplicate I.D.:

## LOW FLOW WELL MONITORING DATA SHEET

Project #: 171009-MM1	Client: AECOM
Sampler: MM	Gauging Date: 10-9-17
Well I.D.: T-5B	Well Diameter (in.): 2 3 <u>4</u> 6 8
Total Well Depth (ft.): 43.65	Depth to Water (ft.): 8.41
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	Flow Cell Type: YSI PRO PLUS

Purge Method: 2" Grundfos Pump      Peristaltic Pump      Bladder Pump  
 Sampling Method: Dedicated Tubing      New Tubing      Other \_\_\_\_\_  
 Start Purge Time: 0900      Flow Rate: 200 mL/min      Pump Depth: 39' SI: 37.5-44.5

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or μS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
0903	20.6	7.53	921	2	3.81	257.4	600	8.41 clear
0906	20.6	7.29	1095	1	0.64	246.4	1200	8.41
0909	20.8	7.26	1101	1	0.42	239.6	1800	8.41
0912	20.5	7.25	1103	1	0.35	230.1	2400	8.41
0915	20.9	7.24	1104	1	0.31	226.2	3000	8.41
0918	20.8	7.23	1104	1	0.29	220.4	3600	8.41
0921	20.8	7.23	1103	1	0.27	217.6	4200	8.41 ↓

Did well dewater? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Amount actually evacuated: 4200 mL
Sampling Time: 0922	Sampling Date: 10-11-17
Sample I.D.: J6038-T5B-10117-1	Laboratory: TA/PAGE
Analyzed for: TPH-G BTEX MTBE TPH-D	Other: see doc
Equipment Blank I.D.: @ Time	Duplicate I.D.: J6038-T5B-10117-2 @ 0925

**Blaine Tech Services, Inc. 1680 Rogers Ave., San Jose, CA 95112 (408) 573-0555**

## LOW FLOW WELL MONITORING DATA SHEET

Project #: 171009-MM1	Client: AECOM
Sampler: MM	Gauging Date: 10-9-17
Well I.D.: T-7A	Well Diameter (in.): 2 3 (4) 6 8
Total Well Depth (ft.): 18.80	Depth to Water (ft.): 6.80
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	Flow Cell Type: YSI PRO PLUS

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump  
 Sampling Method: Dedicated Tubing New Tubing Other

Start Purge Time: 1426 Flow Rate: 200 mL/min Pump Depth: 13.5' 5/8-26

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
1429	23.7	7.07	1418	3	0.37	217.4	600	6.82 c/100
1432	23.5	6.99	1416	1	0.27	204.4	1200	6.82
1435	23.5	6.96	1416	1	0.30	200.1	1800	6.82
1438	23.5	6.94	1415	1	0.24	195.7	2400	6.82
1441	23.6	6.94	1415	1	0.22	189.3	3000	6.82
1444	23.5	6.94	1416	1	0.20	190.3	3600	6.82
1447	23.5	6.93	1416	1	0.19	193.6	4200	6.82 ↓

Did well dewater? Yes  No  Amount actually evacuated: 4200 mL

Sampling Time: 1448 Sampling Date: 10-10-17

Sample I.D.: J6038-T-7A-10/17-1 Laboratory: TA/PACE

Analyzed for: TPH-G BTEX MTBE TPH-D Other: see cor

Equipment Blank I.D.: @ Time Duplicate I.D.: J6038-T7A-10/17-2 @ 1450

## LOW FLOW WELL MONITORING DATA SHEET

Project #: <u>171009-MM1</u>	Client: <u>AECOM</u>
Sampler: <u>MM</u>	Gauging Date: <u>10-9-17</u>
Well I.D.: <u>T-7B</u>	Well Diameter (in.): 2 3 <u>4</u> 6 8
Total Well Depth (ft.): <u>41.67</u>	Depth to Water (ft.): <u>5.61</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	Flow Cell Type: <u>YSI PRO PLUS</u>

Purge Method: 2" Grundfos Pump      Peristaltic Pump      Bladder Pump  
 Sampling Method: Dedicated Tubing      New Tubing      Other \_\_\_\_\_  
 Start Purge Time: 0812      Flow Rate: 200 mL/min      Pump Depth: 37.5' 34-41'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or μS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
0815	19.7	7.70	853	4	3.69	282.2	600	5.71
0818	20.6	7.44	939	1	1.93	268.4	1200	5.71
0821	20.1	7.34	970	2	1.14	261.9	1800	5.71
0824	19.9	7.26	1001	1	0.65	254.8	2400	5.71
0827	20.0	7.21	1014	1	0.45	248.2	3000	5.71
0830	19.7	7.19	1021	1	0.32	240.3	3600	5.71
0833	19.8	7.18	1022	1	0.35	235.6	4200	5.71
0836	20.0	7.17	1024	1	0.33	232.4	4800	5.71

Did well dewater? Yes  No       Amount actually evacuated: 4800 mL

Sampling Time: 0837      Sampling Date: 10-11-17

Sample I.D.: J6038-T7B-10/11/17-1      Laboratory: TA/PACE

Analyzed for:      TPH-G    BTEX    MTBE    TPH-D      Other: see coc

Equipment Blank I.D.:      @      Time      Duplicate I.D.: J6038-T7B-10/11/17-2      @0840

## LOW FLOW WELL MONITORING DATA SHEET

Project #: 171069-MM1	Client: AECOM
Sampler: MM	Gauging Date: 10-12-17
Well I.D.: T-8A	Well Diameter (in.): 2 3 <u>4</u> 6 8
Total Well Depth (ft.): 15.38	Depth to Water (ft.): 6.72
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	Flow Cell Type: YSI PRO PLUS

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump  
 Sampling Method: Dedicated Tubing New Tubing Other \_\_\_\_\_  
 Start Purge Time: 1043 Flow Rate: 200 mL/min Pump Depth: 115' SI: 7-18

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or <u>µS/cm</u> )	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or <u>mL</u> )	Depth to Water (ft.)	
1046	21.9	7.14	1367	2	0.33	149.6	600	6.75	clear
1049	22.2	7.00	1400	1	0.20	106.6	1200	6.75	odor
1052	22.1	6.99	1403	1	0.20	106.4	1800	6.75	
1055	22.1	6.97	1404	1	0.15	78.7	2400	6.75	
1058	22.0	6.96	1404	1	0.12	68.0	3000	6.75	
1101	22.0	6.95	1404	1	0.11	62.3	3600	6.75	↓
1104	22.0	6.94	1404	1	0.10	59.6	4200	6.75	

Did well dewater? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Amount actually evacuated: <u>4200 mL</u>
Sampling Time: <u>1105</u>	Sampling Date: <u>10-12-17</u>
Sample I.D.: <u>J6038-T8A-10/217</u>	Laboratory: <u>TA/PACC</u>
Analyzed for: TPH-G BTEX MTBE TPH-D	Other: <u>see col</u>
Equipment Blank I.D.: @ _____	Duplicate I.D.: _____

## LOW FLOW WELL MONITORING DATA SHEET

Project #: <u>171009-MM1</u>	Client: <u>AECOM</u>
Sampler: <u>MM</u>	Gauging Date: <u>10-9-17</u>
Well I.D.: <u>T-8B</u>	Well Diameter (in.): 2 3 <u>4</u> 6 8
Total Well Depth (ft.): <u>35.12</u>	Depth to Water (ft.): <u>6.71</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	Flow Cell Type: <u>YSI PRO PLUS</u>

Purge Method: 2" Grundfos Pump      Peristaltic Pump      Bladder Pump  
 Sampling Method: Dedicated Tubing      New Tubing      Other \_\_\_\_\_

Start Purge Time: 1040      Flow Rate: 200 mL/min      Pump Depth: 29      3/23-35

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or μS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
1043	20.8	7.15	1348	13	0.54	242.4	600	6.75
1046	21.1	7.08	1346	12	0.34	214.6	1200	6.78
1049	21.2	7.06	1351	11	0.28	183.4	1800	6.81
1052	21.0	7.05	1348	10	0.28	164.4	2400	6.83
1055	21.1	7.04	1350	10	0.26	147.8	3000	6.85
1058	21.1	7.04	1351	9	0.23	146.9	3600	6.87
1101	20.9	7.04	1347	9	0.21	137.6	4200	6.89

Did well dewater? Yes  No       Amount actually evacuated: 4200 mL

Sampling Time: 1102      Sampling Date: 10-11-17

Sample I.D.: J6038-T8B-10/117      Laboratory: TA/PAGE

Analyzed for:      TPH-G    BTEX    MTBE    TPH-D      Other: see coc

Equipment Blank I.D.:      @      Time      Duplicate I.D.:

## LOW FLOW WELL MONITORING DATA SHEET

Project #: 171009-MM1	Client: ACCOM
Sampler: MM	Gauging Date: 10-9-17
Well I.D.: T-9A	Well Diameter (in.): 2 3 (4) 6 8
Total Well Depth (ft.): 18.37	Depth to Water (ft.): 6.93
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	Flow Cell Type: VSI PRO PLUS

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump  
 Sampling Method: Dedicated Tubing New Tubing Other  
 Start Purge Time: 0931 Flow Rate: 200 mL/min Pump Depth: 13' 7-19'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or μS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
0934	21.7	7.07	1338	2	0.40	197.2	600	6.95 clear
0937	21.7	6.99	1348	1	0.27	183.6	1200	6.95
0940	21.6	6.97	1350	1	0.29	180.8	1800	6.95
0943	21.6	6.95	1347	1	0.33	180.9	2400	6.95
0946	21.6	6.93	1347	1	0.27	178.3	3000	6.95
0949	21.7	6.93	1345	1	0.25	175.1	3600	6.95
0952	21.8	6.92	1348	1	0.25	173.4	4200	6.95 ↓

Did well dewater? Yes  No  Amount actually evacuated: 4200 mL

Sampling Time: 0953 Sampling Date: 10-10-17

Sample I.D.: J6038-T9A-10/17 Laboratory: TA/PACE

Analyzed for: TPH-G BTEX MTBE TPH-D Other: see COC

Equipment Blank I.D.: @ Time Duplicate I.D.:

## LOW FLOW WELL MONITORING DATA SHEET

Project #: 171009-MM1	Client: AGCOIM
Sampler: MM	Gauging Date: 10-9-17
Well I.D.: T-9B	Well Diameter (in.): 2 3 <u>4</u> 6 8
Total Well Depth (ft.): 34.32	Depth to Water (ft.): 7.39
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	Flow Cell Type: YSI PRC PLUS

Purge Method: 2" Grundfos Pump      Peristaltic Pump      Bladder Pump  
 Sampling Method: Dedicated Tubing      New Tubing      Other \_\_\_\_\_

Start Purge Time: 0855      Flow Rate: 200 mL/min      Pump Depth: 31      5/28-37

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or μS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)	
0858	20.6	7.74	1029	2	2.60	267.7	600	7.39	c/adv
0901	20.6	7.21	1365	1	0.64	196.5	1200	7.39	
0904	20.8	7.15	1396	1	0.36	186.2	1800	7.39	
0907	20.8	7.14	1402	1	0.31	181.6	2400	7.39	
0910	20.8	7.13	1405	1	0.29	176.8	3000	7.39	
0913	20.7	7.12	1408	1	0.31	172.6	3600	7.39	↓

Did well dewater? Yes  No      Amount actually evacuated: 3600 mL

Sampling Time: 0914      Sampling Date: 10-10-17

Sample I.D.: J6038-T9B-10/017      Laboratory: TA

Analyzed for:      TPH-G    BTEX    MTBE    TPH-D      Other: HVOC

Equipment Blank I.D.:      @      Time      Duplicate I.D.:

## LOW FLOW WELL MONITORING DATA SHEET

Project #: <u>171009-MM1</u>	Client: <u>AECOM</u>
Sampler: <u>MM</u>	Gauging Date: <u>10-9-17</u>
Well I.D.: <u>T-9C</u>	Well Diameter (in.): 2 3 <u>4</u> 6 8
Total Well Depth (ft.): <u>63.55</u>	Depth to Water (ft.): <u>6.74</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	Flow Cell Type: <u>YSI PRO PLUS</u>

Purge Method: 2" Grundfos Pump      Peristaltic Pump      Bladder Pump  
 Sampling Method: Dedicated Tubing      New Tubing      Other \_\_\_\_\_  
 Start Purge Time: 0820      Flow Rate: 200 mL/min      Pump Depth: 59'      55-65'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)	
0823	18.4	7.87	733	6	2.81	208.7	600	6.75	clear
0826	20.0	7.84	732	3	0.97	187.2	1200	6.78	
0829	20.2	7.84	732	3	0.70	180.6	1800	6.80	
0832	20.2	7.83	732	5	0.57	175.0	2400	6.82	
0835	19.9	7.83	731	6	0.49	167.8	3000	6.84	
0838	20.0	7.82	731	5	0.47	162.0	3600	6.86	
0841	20.1	7.82	730	5	0.45	160.2	4200	6.88	↓

Did well dewater? Yes  No       Amount actually evacuated: 4200 mL

Sampling Time: 0842      Sampling Date: 10-10-17

Sample I.D.: J6038-T9C-10/10/17      Laboratory: TA

Analyzed for:      TPH-G    BTEX    MTBE    TPH-D      Other: HVOC

Equipment Blank I.D.:      @      Time      Duplicate I.D.:

## LOW FLOW WELL MONITORING DATA SHEET

Project #: <u>171009-MM1</u>	Client: <u>AECOM</u>
Sampler: <u>MM</u>	Gauging Date: <u>10-9-17</u>
Well I.D.: <u>T-10B</u>	Well Diameter (in.): <u>2</u> 3 4 6 8 _____
Total Well Depth (ft.): <u>25.15</u>	Depth to Water (ft.): <u>6.88</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	Flow Cell Type: <u>YSI PRO PLUS</u>

Purge Method: 2" Grundfos Pump      Peristaltic Pump      Bladder Pump  
 Sampling Method: Dedicated Tubing      New Tubing      Other \_\_\_\_\_  
 Start Purge Time: 1:00      Flow Rate: 200 mL/min      Pump Depth: 24' SL: 23-32

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or μS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
1103	23.2	7.13	1066	7	0.71	218.8	600	6.91
1106	23.2	6.90	1069	5	0.28	199.9	1200	6.93
1109	23.4	6.86	1319	3	0.23	181.5	1800	6.94
1112	23.7	6.88	1372	2	0.21	169.2	2400	6.94
1115	23.8	6.90	1388	2	0.22	156.4	3000	6.94
1118	23.7	6.90	1413	2	0.19	147.1	3600	6.94
1121	23.6	6.89	1426	2	0.18	146.2	4200	6.94

Did well dewater? Yes  No      Amount actually evacuated: 4200 mL

Sampling Time: 1122      Sampling Date: 10-10-17

Sample I.D.: J6038-T10B-10/017      Laboratory: TA/PACE

Analyzed for:      TPH-G    BTEX    MTBE    TPH-D      Other: see cor

Equipment Blank I.D.:      @      Time      Duplicate I.D.:

## LOW FLOW WELL MONITORING DATA SHEET

Project #: <u>171009-MM1</u>	Client: <u>AECOM</u>
Sampler: <u>MM</u>	Gauging Date: _____
Well I.D.: <u>T-10C</u>	Well Diameter (in.): 2 3 <u>4</u> 6 8 _____
Total Well Depth (ft.): <u>57.40</u>	Depth to Water (ft.): <u>7.57</u>
Depth to Free Product: _____	Thickness of Free Product (feet): _____
Referenced to: <u>PVC</u> Grade	Flow Cell Type: <u>YSI PRO PLUS</u>

Purge Method: 2" Grundfos Pump      Peristaltic Pump      Bladder Pump  
 Sampling Method: Dedicated Tubing      New Tubing      Other \_\_\_\_\_

Start Purge Time: 0725      Flow Rate: 200 mL/min      Pump Depth: 53' 49-59

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or <u>µS/cm</u> )	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
0728	19.1	7.11	911	6	1.99	218.9	600	7.45 <i>clear</i>
0731	20.2	7.36	784	9	0.67	188.1	1200	7.67 <i>odor</i>
0734	20.3	7.45	782	9	0.51	181.1	1800	7.68
0737	20.2	7.48	784	9	0.46	177.1	2400	7.68
0740	20.2	7.50	788	8	0.37	171.3	3000	7.68
0743	20.3	7.52	795	8	0.35	165.6	3600	7.68
0746	20.3	7.53	798	8	0.34	162.4	4200	7.68 ↓

Did well dewater? Yes No      Amount actually evacuated: mL

Sampling Time: 0747      Sampling Date: 10-13-17

Sample I.D.: J6038-T10C-10/13/17      Laboratory: TA

Analyzed for:      TPH-G    BTEX    MTBE    TPH-D      Other: AVOCs

Equipment Blank I.D.: Trip Blank - @ J6038-10/13/17 Time 0700      Duplicate I.D.: \_\_\_\_\_

## LOW FLOW WELL MONITORING DATA SHEET

Project #: <u>17009-MM1</u>	Client: <u>AECOM</u>
Sampler: <u>MM</u>	Gauging Date: <u>10-9-17</u>
Well I.D.: <u>T-11C</u>	Well Diameter (in.): 2 3 <u>4</u> 6 8
Total Well Depth (ft.): <u>55.60</u>	Depth to Water (ft.): <u>6.61</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	Flow Cell Type: <u>YSI PRO PLUS</u>

Purge Method: 2" Grundfos Pump      Peristaltic Pump      Bladder Pump  
 Sampling Method: Dedicated Tubing      New Tubing      Other \_\_\_\_\_  
 Start Purge Time: 1426      Flow Rate: 200      Pump Depth: 51      46.56

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or μS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
1429	24.4	7.68	902	8	1.74	132.0	600	6.63
1432	23.2	7.49	899	5	0.45	94.9	1200	6.66
1435	23.0	7.39	896	2	0.27	47.5	1800	6.66
1438	23.0	7.38	895	1	0.24	95.4	2400	6.66
1441	22.8	7.37	895	1	0.22	79.0	3000	6.66
1444	22.7	7.36	894	1	0.19	138.0	3600	6.66
1447	23.0	7.37	893	1	0.16	106.1	4200	6.66
1450	22.7	7.38	895	1	0.18	96.2	4800	6.66
1453	22.7	7.37	895	1	0.20	90.3	5400	6.66

Did well dewater? Yes No      Amount actually evacuated: 5400 mL

Sampling Time: 1454      Sampling Date: 10-9-17

Sample I.D.: J6038-T11C-100917      Laboratory: TA

Analyzed for:      TPH-G    BTEX    MTBE    TPH-D      Other: HVOC

Equipment Blank I.D.:      @      Time      Duplicate I.D.:

## LOW FLOW WELL MONITORING DATA SHEET

Project #: <u>171009-MMM1</u>	Client: <u>ACCUM</u>
Sampler: <u>MM</u>	Gauging Date: <u>10-13-17</u>
Well I.D.: <u>T-12C</u>	Well Diameter (in.): <u>(2)</u> 3 4 6 8
Total Well Depth (ft.): <u>55.02</u>	Depth to Water (ft.): <u>5.84</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>(PVC)</u> Grade	Flow Cell Type: <u>YSI PRO PLUS</u>

Purge Method: 2" Grundfos Pump      Peristaltic Pump      Bladder Pump  
 Sampling Method: Dedicated Tubing      New Tubing      Other \_\_\_\_\_  
 Start Purge Time: 1157      Flow Rate: 200 ml/min      Pump Depth: 50.25' 51.45' 55.5'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or μS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
1200	22.6	8.15	471	25	1.73	159.2	600	5.84 clear
1203	22.2	7.79	612	21	0.78	127.6	1200	5.84
1206	22.0	7.65	819	17	0.51	113.1	1800	5.84
1209	21.9	7.57	837	17	0.37	104.4	2400	5.84
1212	21.8	7.53	843	16	0.32	103.8	3000	5.84
1215	21.9	7.50	844	17	0.30	99.6	3600	5.84
1218	22.0	7.49	846	18	0.29	101.2	4200	5.84 ↓

Did well dewater? Yes  No      Amount actually evacuated: 4200 mL

Sampling Time: 1219      Sampling Date: 10-13-17

Sample I.D.: J6038-T12C-101317      Laboratory: TA

Analyzed for:      TPH-G    BTEX    MTBE    TPH-D      Other: HVOCs

Equipment Blank I.D.:      @      Time      Duplicate I.D.:

## LOW FLOW WELL MONITORING DATA SHEET

Project #: 171609-MM1	Client: AECOM
Sampler: MM	Gauging Date: 10-9-17
Well I.D.: T-13A	Well Diameter (in.): 2 3 4 6 8 <u>1"</u>
Total Well Depth (ft.): 18.84	Depth to Water (ft.): 7.03
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	Flow Cell Type: <u>YSI PRO PLUS</u>

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump  
 Sampling Method: Dedicated Tubing New Tubing Other \_\_\_\_\_  
 Start Purge Time: 1410 Flow Rate: 200 mL/min Pump Depth: 15' 10-20'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
1413	20.1	7.02	1401	8	0.44	239.9	600	7.12 <sup>clear</sup>
1416	20.2	6.97	1405	5	0.38	212.6	1200	7.15
1419	20.4	6.93	1407	3	0.32	197.6	1800	7.15
1422	20.2	6.93	1405	3	0.25	186.6	2400	7.15
1425	20.1	6.93	1403	3	0.20	171.9	3000	7.15
1428	20.2	6.92	1401	2	0.17	160.2	3600	7.15
1431	20.2	6.93	1401	2	0.16	155.4	4200	7.15
1434	20.3	6.93	1400	2	0.15	153.4	4800	7.15 ↓

Did well dewater? Yes  No Amount actually evacuated: 4800 mL

Sampling Time: 1435 Sampling Date: 10-11-17

Sample I.D.: 36038-T13A-16117 Laboratory: TA/P/MI

Analyzed for: TPH-G BTEX MTBE TPH-D Other: see cor

Equipment Blank I.D.: @ \_\_\_\_\_ Time Duplicate I.D.: \_\_\_\_\_

## LOW FLOW WELL MONITORING DATA SHEET

Project #: <u>171009-MM1</u>	Client: <u>Accom</u>
Sampler: <u>MM</u>	Gauging Date: <u>10-9-17</u>
Well I.D.: <u>T-14A</u>	Well Diameter (in.): 2 3 4 6 8 <u>1"</u>
Total Well Depth (ft.): <u>17.95</u>	Depth to Water (ft.): <u>6.94</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	Flow Cell Type: <u>YSI PRO PLUS</u>

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump  
 Sampling Method: Dedicated Tubing New Tubing Other \_\_\_\_\_

Start Purge Time: 0955 Flow Rate: 200 mL/min Pump Depth: 15' 5/10-20

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)	
0958	19.4	7.19	1308	5	0.68	255.0	600	7.00	clear
1001	19.9	6.94	1311	4	0.26	230.9	1200	7.02	}
1004	20.0	6.92	1328	3	0.20	210.6	1800	7.03	
1007	20.0	6.90	1329	4	0.19	200.1	2400	7.04	
1010	20.1	6.90	1333	3	0.21	187.9	3000	7.04	
1013	20.1	6.90	1335	3	0.21	178.6	3600	7.04	
1016	20.1	6.89	1333	3	0.19	172.4	4200	7.04	

Did well dewater? Yes  No  Amount actually evacuated: 4200 mL

Sampling Time: 1017 Sampling Date: 10-11-17

Sample I.D.: J6038-T14A-10/11/17 Laboratory: TA/PAGE

Analyzed for: TPH-G BTEX MTBE TPH-D Other: SEE COC

Equipment Blank I.D.: @ \_\_\_\_\_ Time Duplicate I.D.: \_\_\_\_\_

## LOW FLOW WELL MONITORING DATA SHEET

Project #: 171009-MM1	Client: AECOM
Sampler: MM	Gauging Date: 10-13-17
Well I.D.: T-15A	Well Diameter (in.): 2 3 4 6 8 <u>1"</u>
Total Well Depth (ft.): 19.17	Depth to Water (ft.): 6.82
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	Flow Cell Type: YSI PRO PLUS

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump  
 Sampling Method: Dedicated Tubing New Tubing Other \_\_\_\_\_  
 Start Purge Time: 1317 Flow Rate: 260 mL/min Pump Depth: 19.75' 10-20'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or μS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)	
1320	22.5	6.98	1327	11	0.31	256.6	600	6.85	↙/↘
1323	22.2	6.92	1330	7	0.30	205.1	1200	6.85	
1326	22.3	6.90	1330	5	0.21	178.2	1800	6.85	
1329	22.2	6.89	1330	3	0.15	156.6	2400	6.85	
1332	22.2	6.88	1332	3	0.14	157.9	3000	6.85	
1335	22.2	6.88	1329	3	0.13	154.6	3600	6.85	↓

Did well dewater? Yes  No Amount actually evacuated: 3600 mL

Sampling Time: 1336 Sampling Date: 10-13-17

Sample I.D.: J6038-T15A-101317 Laboratory: TA

Analyzed for: TPH-G BTEX MTBE TPH-D Other: HVOCs

Equipment Blank I.D.: @ Duplicate I.D.:

## LOW FLOW WELL MONITORING DATA SHEET

Project #: <u>17009-MM1</u>	Client: <u>AECOM</u>
Sampler: <u>MM</u>	Gauging Date: <u>10-9-17</u>
Well I.D.: <u>T-16A</u>	Well Diameter (in.): 2 3 4 6 8 <u>1</u>
Total Well Depth (ft.): <u>18.66</u>	Depth to Water (ft.): <u>6.97</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	Flow Cell Type: <u>YSI PRO PLUS</u>

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump  
 Sampling Method: Dedicated Tubing New Tubing Other \_\_\_\_\_

Start Purge Time: 1022 Flow Rate: 200 mL/min - 150 mL/min Pump Depth: 14.5' 10-20

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or <u>µS/cm</u> )	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or <u>mL</u> )	Depth to Water (ft.)	
1025	24.5	7.12	1258	20	0.94	216.5	600	7.00	clear
1028	24.2	6.94	1349	20	0.35	197.3	1200	7.09	
1031	24.2	6.92	1345	22	0.37	197.7	1650	7.09	
1034	24.4	6.91	1345	16	0.31	190.2	2100	7.09	
1037	24.7	6.90	1344	10	0.27	184.5	2550	7.09	
1040	24.7	6.90	1344	7	0.24	186.7	3000	7.09	
1043	24.6	6.90	1342	7	0.22	179.9	3450	7.09	
1046	24.5	6.89	1346	7	0.20	175.6	3900	7.09	↓

Did well dewater? Yes  No  Amount actually evacuated: 3900 mL

Sampling Time: 1047 Sampling Date: 10-10-17

Sample I.D.: J6038-T16A-10/17 Laboratory: TA

Analyzed for: TPH-G BTEX MTBE TPH-D Other: AVOCES

Equipment Blank I.D.: @ \_\_\_\_\_ Time Duplicate I.D.: \_\_\_\_\_

## LOW FLOW WELL MONITORING DATA SHEET

Project #: 171009-MM1	Client: AECOM
Sampler: MM	Gauging Date: 10-9-17
Well I.D.: T-17A	Well Diameter (in.): <u>2</u> 3 4 6 8
Total Well Depth (ft.): 20.24	Depth to Water (ft.): 7.25
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	Flow Cell Type: <u>YSI PRO PLUS</u>

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump  
 Sampling Method: Dedicated Tubing New Tubing Other \_\_\_\_\_  
 Start Purge Time: 0819 Flow Rate: 200 ml/min Pump Depth: 15' 10-20

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or <u>µS/cm</u> )	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. of <u>ml</u> )	Depth to Water (ft.)	
0822	18.9	7.25	1236	8	0.49	280.9	600	7.28	clear
0825	19.6	7.16	1289	10	0.30	217.4	1200	7.29	           
0828	19.9	7.13	1302	10	0.24	162.6	1800	7.29	
0831	20.0	7.11	1317	9	0.19	141.8	2400	7.29	
0834	20.0	7.04	1318	6	0.18	137.7	3000	7.29	
0837	20.1	7.00	1316	5	0.16	140.2	3600	7.29	
0840	20.2	6.98	1315	4	0.15	144.6	4200	7.29	

Did well dewater? Yes  No Amount actually evacuated: 4200 mL

Sampling Time: 0841 Sampling Date: 10-12-17

Sample I.D.: J6038-T17A-101217 Laboratory: TA/P

Analyzed for:  TPH-G  BTEX  MTBE  TPH-D Other: see COC

Equipment Blank I.D.: @ Duplicate I.D.:

## LOW FLOW WELL MONITORING DATA SHEET

Project #: 171009-MM1	Client: AECOM
Sampler: MM	Gauging Date: 10-9-17
Well I.D.: T-17B	Well Diameter (in.): 2 3 4 6 8 <u>1"</u>
Total Well Depth (ft.): 34.50	Depth to Water (ft.): 7.22
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	Flow Cell Type: YSI PRO PLUS

Purge Method: 2" Grundfos Pump      Peristaltic Pump      Bladder Pump  
 Sampling Method: Dedicated Tubing      New Tubing      Other \_\_\_\_\_  
 Start Purge Time: 0850      Flow Rate: 100-200 ml/min      Pump Depth: 30'      25-35'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
0859	19.4	7.31	1210	19	0.57	280.0	300	7.30
0902	19.7	7.24	1223	15	0.26	265.2	600	7.30
0905	19.9	7.22	1221	13	0.22	257.7	1200	7.33
0908	19.8	7.21	1216	9	0.26	249.2	1800	7.35
0911	19.9	7.19	1211	8	0.18	239.2	2400	7.37
0914	19.9	7.18	1204	9	0.17	229.0	3000	7.38
0917	19.9	7.17	1200	9	0.16	226.6	3600	7.39

Did well dewater? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Amount actually evacuated: <u>3600 mL</u>
Sampling Time: <u>0918</u>	Sampling Date: <u>10-12-17</u>
Sample I.D.: <u>J6038-T17B-101217</u>	Laboratory: <u>TA/Pace</u>
Analyzed for:      TPH-G    BTEX    MTBE    TPH-D      Other: <u>see coc</u>	
Equipment Blank I.D.:      @      Time      Duplicate I.D.:	

## LOW FLOW WELL MONITORING DATA SHEET

Project #: <u>171009-MM1</u>	Client: <u>AECOM</u>
Sampler: <u>MM</u>	Gauging Date: <u>10-9-17</u>
Well I.D.: <u>T-18B</u>	Well Diameter (in.): <u>(2)</u> 3 4 6 8 _____
Total Well Depth (ft.): <u>47.28</u>	Depth to Water (ft.): <u>5.29</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>(PVC)</u> Grade	Flow Cell Type: <u>YSI PRO PLUS</u>

Purge Method: 2" Grundfos Pump      Peristaltic Pump      Bladder Pump  
 Sampling Method: Dedicated Tubing      New Tubing      Other \_\_\_\_\_  
 Start Purge Time: 1253      Flow Rate: 200-100 mL/min      Pump Depth: 43.5 51/41-46

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
1256	22.9	8.78	712	167	2.92	154.3	600	5.39 cloudy
1259	22.4	7.70	787	279	1.11	157.0	1200	5.47
1302	22.4	7.50	800	206	0.49	134.0	1500	5.50
1305	22.4	7.54	794	144	0.45	121.5	1800	5.52
1308	22.3	7.59	789	124	0.40	113.7	2100	5.52 ↓
1311	22.3	7.60	782	92	0.36	104.7	2400	5.53 clear
1314	22.3	7.60	782	77	0.34	100.8	2700	5.53
1317	22.2	7.59	783	70	0.32	96.6	3000	5.53
1320	22.2	7.58	783	67	0.31	94.9	3300	5.54
1323	22.2	7.58	784	66	0.31	93.6	3600	5.54 ↓

Did well dewater? Yes (No)      Amount actually evacuated: 3600 mL

Sampling Time: 1324      Sampling Date: 10-10-17

Sample I.D.: J6038-T18B-10/17      Laboratory: TA

Analyzed for:      TPH-G    BTEX    MTBE    TPH-D      Other: AVOCs

Equipment Blank I.D.:      @      Time      Duplicate I.D.:

## LOW FLOW WELL MONITORING DATA SHEET

Project #: 171009-MM1	Client: AECOM
Sampler: MM	Gauging Date: 10-9-17
Well I.D.: T-19A	Well Diameter (in.): 2 3 4 6 8 <u>1"</u>
Total Well Depth (ft.): 20.97	Depth to Water (ft.): 7.25
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	Flow Cell Type: YSI PRO PLUS

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump  
 Sampling Method: Dedicated Tubing New Tubing Other \_\_\_\_\_  
 Start Purge Time: 1218 Flow Rate: 200 mL/min Pump Depth: 15' 10-20

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or μS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)	
1221	22.3	7.09	1333	6	0.42	152.9	600	7.35	clear
1224	22.4	7.03	1347	4	0.27	84.2	1200	7.36	slight
1227	22.8	7.01	1345	2	0.23	61.2	1800	7.37	odor
1230	22.5	7.00	1353	2	0.20	43.8	2400	7.37	
1233	22.6	6.99	1351	3	0.18	25.0	3000	7.37	
1236	22.6	6.98	1354	3	0.15	8.6	3600	7.38	
1239	22.6	6.97	1355	2	0.14	-10.8	4200	7.38	
1242	22.6	6.97	1352	3	0.13	-21.5	4800	7.38	
1245	22.7	6.97	1353	2	0.13	-31.0	5400	7.38	↓

Did well dewater? Yes No Amount actually evacuated: 5400 mL

Sampling Time: 1246 Sampling Date: 10-11-17

Sample I.D.: J6038-T19A-10/11/17 Laboratory: TA/P/MI

Analyzed for: TPH-G BTEX MTBE TPH-D Other: see COC

Equipment Blank I.D.: @ Time Duplicate I.D.:

## LOW FLOW WELL MONITORING DATA SHEET

Project #: 171009-MM1	Client: AECOM
Sampler: MM	Gauging Date: 10-9-17
Well I.D.: T-19B	Well Diameter (in.): (2) 3 4 6 8
Total Well Depth (ft.): 29.30	Depth to Water (ft.): 5.54
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	Flow Cell Type: YSI PRO PLUS

Purge Method: 2" Grundfos Pump      Peristaltic Pump      (Bladder Pump)  
 Sampling Method: Dedicated Tubing      (New Tubing)      Other \_\_\_\_\_

Start Purge Time: 0727      Flow Rate: 200 mL/min      Pump Depth: 34 ft. 29-39

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or μS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)	
0730	19.5	7.27	1003	879	1.27	310.8	600	5.60	cloudy brown
0733	19.5	7.12	1009	933	0.60	310.0	1200	5.63	
0736	19.4	7.11	1008	843	0.47	316.4	1800	5.68	
0739	19.3	7.12	1008	588	0.34	314.7	2400	5.68	
0742	19.4	7.14	1007	600	0.30	312.3	3000	5.69	
0745	19.4	7.15	1007	564	0.27	310.1	3600	5.69	
0748	19.4	7.15	1006	539	0.27	308.3	4200	5.69	
0751	19.4	7.16	1008	519	0.29	305.5	4800	5.69	↓

Did well dewater? Yes  No  Amount actually evacuated: 4800 mL

Sampling Time: 0752      Sampling Date: 10-11-17

Sample I.D.: J6038-T19B-10/11/17      Laboratory: TA

Analyzed for: TPH-G BTEX MTBE TPH-D      Other: HVOCS

Equipment Blank I.D.: Trip Blank-@ J6038-10/11/17 Time 0700      Duplicate I.D.:

## LOW FLOW WELL MONITORING DATA SHEET

Project #: 171009-MM1	Client: AECOM
Sampler: MM	Gauging Date: 10-9-17
Well I.D.: T-20B	Well Diameter (in.): (2) 3 4 6 8
Total Well Depth (ft.): 27.05	Depth to Water (ft.): 5.24
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	Flow Cell Type: YSI PRO PLUS

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump  
 Sampling Method: Dedicated Tubing New Tubing Other  
 Start Purge Time: 1:337 Flow Rate: 200 mL/min Pump Depth: 24.5' 1/22-27

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or μS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)	
1340	22.6	7.26	1477	35	0.57	176.3	600	5.30	clear
1343	22.5	7.14	1482	70	0.29	175.8	1200	5.33	slightly cloudy
1346	22.4	7.12	1477	63	0.24	161.2	1800	5.35	↓
1349	22.3	7.11	1476	56	0.21	153.0	2400	5.37	↓
1352	22.3	7.11	1477	47	0.25	145.6	3000	5.39	clear
1355	22.3	7.11	1477	44	0.24	141.2	3600	5.40	↓
1358	22.3	7.11	1480	42	0.23	139.6	4200	5.42	↓

Did well dewater? Yes <input checked="" type="radio"/> No	Amount actually evacuated: 4200 mL
Sampling Time: 1359	Sampling Date: 10-10-17
Sample I.D.: J6038-T20B-10/10/17	Laboratory: TA/PACE
Analyzed for: TPH-G BTEX MTBE TPH-D	Other: see COC
Equipment Blank I.D.: @	Duplicate I.D.:

## LOW FLOW WELL MONITORING DATA SHEET

Project #: <u>17009-MMM</u>	Client: <u>AECOM</u>
Sampler: <u>MM</u>	Gauging Date: <u>10-9-17</u>
Well I.D.: <u>T-21B</u>	Well Diameter (in.): <u>(2)</u> 3 4 6 8 _____
Total Well Depth (ft.): <u>27.37</u>	Depth to Water (ft.): <u>7.19</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>(PVC)</u> Grade	Flow Cell Type: <u>YSI PRO PLUS</u>

Purge Method: 2" Grundfos Pump      (Peristaltic Pump)      Bladder Pump  
 Sampling Method: Dedicated Tubing      (New Tubing)      Other \_\_\_\_\_  
 Start Purge Time: 0731      Flow Rate: 150 mL/min - 200 mL/min      Pump Depth: 24.5' SL: 22-27

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
0734	19.9	6.65	1310	4	0.53	231.3	450	7.23 clear
0737	20.5	6.91	1288	3	0.33	214.5	900	7.25
0740	20.2	7.01	1283	3	0.28	202.7	1350	7.25
0743	20.3	7.02	1279	3	0.27	200.4	1800	7.26
0746	20.2	7.04	1273	3	0.23	197.3	2400	7.28
0749	20.5	7.05	1269	3	0.20	192.2	3000	7.30
0752	20.6	7.07	1267	3	0.18	190.4	3600	7.31
0755	20.5	7.08	1267	3	0.17	185.6	4200	7.32 ↓

Did well dewater? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Amount actually evacuated: <u>4200 mL</u>
Sampling Time: <u>0756</u>	Sampling Date: <u>10-12-17</u>
Sample I.D.: <u>J6038-T21B-10/12/17</u>	Laboratory: <u>TA/P</u>
Analyzed for:      TPH-G    BTEX    MTBE    TPH-D      Other: <u>see coc</u>	
Equipment Blank I.D.: <u>Trip Blank @ J6038-10/12/17 Time 0700</u>	Duplicate I.D.:

## LOW FLOW WELL MONITORING DATA SHEET

Project #: <u>171009-MM1</u>	Client: <u>ACCOM</u>
Sampler: <u>MM</u>	Gauging Date: <u>10-13-17</u>
Well I.D.: <u>T-22B</u>	Well Diameter (in.): <u>(2)</u> 3 4 6 8
Total Well Depth (ft.): <u>24.40</u>	Depth to Water (ft.): <u>6.63</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>(PVC)</u> Grade	Flow Cell Type: <u>YSI PRO PLUS</u>

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump  
 Sampling Method: Dedicated Tubing New Tubing Other \_\_\_\_\_  
 Start Purge Time: 0910 Flow Rate: 150-200 mL/min Pump Depth: 24.2' SI: 24.25'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or μS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
0913	20.9	7.15	1333	13	0.41	191.7	450	6.77
0916	21.0	7.03	1344	7	0.27	174.1	900	6.77
0919	21.2	7.01	1338	4	0.28	167.7	1500	6.80
0922	21.3	6.99	1341	10	0.27	158.4	2100	6.82
0925	21.4	6.97	1339	5	0.19	146.6	2700	6.82
0928	21.3	6.96	1342	4	0.18	140.8	3300	6.82
0931	21.4	6.96	1337	4	0.17	137.4	3900	6.82

Did well dewater? Yes (No) Amount actually evacuated: 3900 mL

Sampling Time: 0932 Sampling Date: 10-13-17

Sample I.D.: J6038-T22B-101317 Laboratory: TA/PAGE

Analyzed for: TPH-G BTEX MTBE TPH-D Other: see COC

Equipment Blank I.D.: @ \_\_\_\_\_ Time Duplicate I.D.: \_\_\_\_\_

## LOW FLOW WELL MONITORING DATA SHEET

Project #: 171009-MMM1	Client: AECOM
Sampler: MMA	Gauging Date: 10-9-17
Well I.D.: T-23A	Well Diameter (in.): 2 3 4 6 8 <u>1"</u>
Total Well Depth (ft.): 17.96	Depth to Water (ft.): 7.49
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	Flow Cell Type: YSI PRO PLUS

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump  
 Sampling Method: Dedicated Tubing New Tubing Other \_\_\_\_\_  
 Start Purge Time: 1316 Flow Rate: 200 mL/min Pump Depth: 15' 10-20

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or μS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)	
1319	20.1	7.09	1405	11	0.90	241.5	600	7.65	clear
1322	20.1	6.87	1388	10	0.29	189.9	1200	7.65	slight odor
1325	20.4	6.89	1402	4	0.25	160.3	1800	7.65	
1328	20.5	6.92	1407	3	0.28	144.3	2400	7.65	
1331	20.2	6.93	1413	2	0.27	133.4	3000	7.65	
1334	20.1	6.93	1416	2	0.22	123.2	3600	7.65	
1337	20.2	6.93	1412	2	0.20	117.6	4200	7.65	
1340	20.3	6.93	1413	2	0.19	115.9	4800	7.65	↓

Did well dewater? Yes <input type="radio"/> No <input checked="" type="radio"/>	Amount actually evacuated: 4800 mL
Sampling Time: 1341	Sampling Date: 10-11-17
Sample I.D.: 36038-T23A-10117	Laboratory: TA/P/M1
Analyzed for: TPH-G BTEX MTBE TPH-D	Other: see COE
Equipment Blank I.D.: @	Duplicate I.D.:

## LOW FLOW WELL MONITORING DATA SHEET

Project #: 171009-MM1	Client: AECOM
Sampler: MM	Gauging Date: 10-9-17
Well I.D.: T-23B	Well Diameter (in.): <u>2</u> 3 4 6 8
Total Well Depth (ft.): 29.10	Depth to Water (ft.): 6.82
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	Flow Cell Type: <u>YSI PRO PLUS</u>

Purge Method: 2" Grundfos Pump      Peristaltic Pump      Bladder Pump & Disp. Bayler  
 Sampling Method: Dedicated Tubing      New Tubing      Other \_\_\_\_\_  
 Start Purge Time: 1333      Flow Rate: 100 mL/min low flow      Pump Depth: 28      SI: 27-30

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or μS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
1336	25.8	7.08	1404	391	6.55	110.7	300	7.14
1339	25.4	7.07	1402	380	6.41	93.5	600	7.29
1342	25.1	7.06	1397	423	6.38	89.2	900	7.68
STOP PURGE w/ (QED) Bladder pump								
START PURGE w/ DISP Bayler								
1355	23.5	7.49	1366	197	1.48	102.6	1.8 GAL	
1359	21.4	7.28	1344	>1000	1.10	158.0	3.6 GAL	
1403	17.9	7.39	1377	>1000	1.40	100.9	5.4 GAL	
Well dewatered at 5.5 GAL      80% = 11.27								
<u>(10-10-17)</u> 0735	21.6	6.94	1307	177	3.64	247.6	Grab	6.82

Did well dewater? <u>Yes</u> No	Amount actually evacuated: <u>5.4 GAL</u>
Sampling Time: <u>0735</u>	Sampling Date: <u>10-10-17</u>
Sample I.D.: <u>J6038-T23B-10/10/17</u>	Laboratory: <u>TA/PACE</u>
Analyzed for:      TPH-G    BTEX    MTBE    TPH-D	Other: <u>See CDC</u>
Equipment Blank I.D.:      @      Time	Duplicate I.D.:

## LOW FLOW WELL MONITORING DATA SHEET

Project #: <u>171009-MM1</u>	Client: <u>AECOM</u>
Sampler: <u>MM</u>	Gauging Date: <u>10-13-17</u>
Well I.D.: <u>T-24B</u>	Well Diameter (in.): <u>(2)</u> 3 4 6 8
Total Well Depth (ft.): <u>35.42</u>	Depth to Water (ft.): <u>7.59</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	Flow Cell Type: <u>YSI PRO PLUS</u>

Purge Method: 2" Grundfos Pump      Peristaltic Pump      Bladder Pump  
 Sampling Method: Dedicated Tubing      New Tubing      Other \_\_\_\_\_  
 Start Purge Time: 0810      Flow Rate: 200 mL/min      Pump Depth: 34.5'      SI-33-36

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or μS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)	
0813	21.2	7.46	1266	>1000	0.66	180.7	600	7.62	Brown odor
0816	21.0	7.43	1257	>1000	0.42	175.2	1200	7.64	↓
0819	20.9	7.41	1257	>1000	0.35	167.8	1800	7.64	↓
0822	21.0	7.39	1257	815	0.31	161.9	2400	7.64	cloudy brown odor
0825	20.9	7.37	1261	510	0.30	153.7	3000	7.64	odor
0828	20.8	7.36	1262	410	0.28	149.8	3600	7.64	
0831	20.8	7.35	1267	302	0.27	144.6	4200	7.64	
0834	20.8	7.34	1266	229	0.30	138.9	4800	7.64	cloudy odor
0837	20.9	7.33	1267	194	0.31	135.8	5400	7.64	odor
0840	20.7	7.33	1269	179	0.28	130.9	6000	7.64	↓
0843	20.7	7.33	1270	183	0.26	128.6	6600	7.64	↓

Did well dewater? Yes <input checked="" type="radio"/> No <input type="radio"/>	Amount actually evacuated: <u>6600 mL</u>
Sampling Time: <u>0844</u>	Sampling Date: <u>10-13-17</u>
Sample I.D.: <u>JG038-T24B-10/13/17</u>	Laboratory: <u>TA/PACG</u>
Analyzed for:      TPH-G    BTEX    MTBE    TPH-D      Other: <u>see COC</u>	
Equipment Blank I.D.:      @      Time      Duplicate I.D.:	

## LOW FLOW WELL MONITORING DATA SHEET

Project #: <u>171009-MMM</u>	Client: <u>AECOM</u>
Sampler: <u>MM</u>	Gauging Date: <u>10-13-17</u>
Well I.D.: <u>T-25A</u>	Well Diameter (in.): 2 3 4 6 8 <u>1"</u>
Total Well Depth (ft.): <u>18.95</u>	Depth to Water (ft.): <u>6.48</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	Flow Cell Type: <u>YSI PRO PLUS</u>

Purge Method: 2" Grundfos Pump      Peristaltic Pump      Bladder Pump  
 Sampling Method: Dedicated Tubing      New Tubing      Other \_\_\_\_\_  
 Start Purge Time: 1240      Flow Rate: 200 mL/min      Pump Depth: 14.5' SI: 16-20

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or μS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
1243	21.8	7.06	1329	19	0.37	199.1	600	6.51
1246	21.9	6.94	1334	13	0.20	209.9	1200	6.51
1249	21.8	6.92	1331	9	0.21	195.1	1800	6.51
1252	21.7	6.91	1331	8	0.27	187.0	2400	6.51
1255	21.8	6.89	1330	7	0.20	179.0	3000	6.51
1258	21.8	6.89	1329	6	0.19	175.6	3600	6.51
1301	21.7	6.89	1330	5	0.19	173.8	4200	6.51

Did well dewater? Yes <input type="radio"/> No <input checked="" type="radio"/>	Amount actually evacuated: <u>4200 mL</u>
Sampling Time: <u>1302</u>	Sampling Date: <u>10-13-17</u>
Sample I.D.: <u>SG038-T25A-101317</u>	Laboratory: <u>TA/PAGE</u>
Analyzed for:      TPH-G    BTEX    MTBE    TPH-D      Other: <u>see col</u>	
Equipment Blank I.D.:      @      Time      Duplicate I.D.:	

## LOW FLOW WELL MONITORING DATA SHEET

Project #: 171009-MM1	Client: AECOM
Sampler: MM	Gauging Date: 10-9-17
Well I.D.: 38S	Well Diameter (in.): 2 3 <u>4</u> 6 8
Total Well Depth (ft.): 14.46	Depth to Water (ft.): 7.92
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	Flow Cell Type: <u>XSI PRO PLUS</u>

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump  
 Sampling Method: Dedicated Tubing New Tubing Other \_\_\_\_\_  
 Start Purge Time: 0953 Flow Rate: 200 mL/min Pump Depth: 12' 9-15'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or <u>µS/cm</u> )	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)	
0956	22.8	7.08	1344	16	0.32	189.7	600	8.02	clear
0959	23.0	7.02	1354	14	0.25	160.4	1200	8.03	odor
1002	23.0	7.01	1351	12	0.20	150.6	1800	8.03	
1005	23.1	6.99	1338	11	0.14	131.7	2400	8.04	
1008	23.1	6.99	1337	12	0.14	123.6	3000	8.04	
1011	23.1	6.98	1332	11	0.13	112.2	3600	8.05	
1014	23.2	6.98	1331	10	0.12	108.2	4200	8.05	
1017	23.2	6.98	1333	10	0.12	105.6	4800	8.05	↓
* Possible roots in well									

Did well dewater? Yes <input type="radio"/> <u>No</u>	Amount actually evacuated: 4800 mL
Sampling Time: 1018	Sampling Date: 10-12-17
Sample I.D.: J6038-38S-101217	Laboratory: TA/PACG
Analyzed for: TPH-G BTEX MTBE TPH-D	Other: see cor
Equipment Blank I.D.: @	Duplicate I.D.:

## LOW FLOW WELL MONITORING DATA SHEET

Project #: <u>171009-MMM1</u>	Client: <u>AECOM</u>
Sampler: <u>MM</u>	Gauging Date: <u>—</u>
Well I.D.: <u>DRUMS</u>	Well Diameter (in.): 2 3 4 6 8 <u>(DRUMS)</u>
Total Well Depth (ft.): <u>—</u>	Depth to Water (ft.): <u>—</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PVC Grade	Flow Cell Type: <u>YSI PRO PLUS</u>

Purge Method: 2" Grundfos Pump      Peristaltic Pump      Bladder Pump  
 Sampling Method: Dedicated Tubing      New Tubing      Other: DISP. Bailer  
 Start Purge Time: —      Flow Rate: —      Pump Depth: —

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or <u>µS/cm</u> )	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
<u>1355</u>	<u>21.5</u>	<u>7.99</u>	<u>771</u>	<u>82</u>	<u>3.34</u>	<u>227.0</u>	<u>Grab</u>	<u>—</u>

Did well dewater? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Amount actually evacuated: <u>Grab</u>
Sampling Time: <u>1355</u>	Sampling Date: <u>10-13-17</u>
Sample I.D.: <u>J6038-DRUMS-10/13/17</u>	Laboratory: <u>TA</u>
Analyzed for: TPH-G BTEX MTBE TPH-D	Other: <u>AVOCs</u>
Equipment Blank I.D.: @ Time	Duplicate I.D.:

# TEST EQUIPMENT CALIBRATION LOG

PROJECT NAME <i>BGS Stewart Dr Sunnyvale CA</i>		PROJECT NUMBER <i>171009-MM1</i>					
EQUIPMENT NAME	EQUIPMENT NUMBER	DATE/TIME OF TEST	STANDARDS USED	EQUIPMENT READING	CALIBRATED TO: OR WITHIN 10%:	TEMP.	INITIALS
YSI PRO PLUS	16M100926	10-9-17	PH 7.6 10.0 4.0 Cond. 3900 uS ORP 231.9 mV DO 100%	PH 7.64 10.00 4.03 Cond. 3910 uS ORP 232.8 mV DO 98.6%	YES		MM
	↓	↓	PH 7.6 10.0 4.0 Cond. 3900 uS ORP 233.6 mV DO 100%	PH 7.05 10.01 4.09 Cond. 3909 uS ORP 231.2 mV DO 98.2%	YES	22 °C	MM
	↓	10-10-17	PH 7.6 10.0 4.0 Cond. 3900 uS ORP 233.6 mV DO 100%	PH 7.05 10.01 4.09 Cond. 3909 uS ORP 231.2 mV DO 98.2%	YES		MM
	↓	↓	PH 7.6 10.0 4.0 Cond. 3900 uS ORP 233.6 mV DO 100%	PH 7.00 10.02 4.00 Cond. 3902 uS ORP 230.1 mV DO 99.4%	YES	23 °C	MM
	↓	10-11-17	PH 7.6 10.0 4.0 Cond. 3900 uS ORP 231.6 mV DO 100%	PH 7.00 10.02 4.00 Cond. 3902 uS ORP 230.1 mV DO 99.4%	YES		MM
	↓	↓	PH 7.6 10.0 4.0 Cond. 3900 uS ORP 231.6 mV DO 100%	PH 7.06 10.00 4.03 Cond. 3900 uS ORP 229.8 mV DO 100%	YES	25 °C	MM
	↓	10-12-17	PH 7.6 10.0 4.0 Cond. 3900 uS ORP 231.0 mV DO 100%	PH 7.06 10.00 4.03 Cond. 3900 uS ORP 229.8 mV DO 100%	YES		MM
	↓	↓	PH 7.6 10.0 4.0 Cond. 3900 uS ORP 231.0 mV DO 100%	PH 7.06 10.00 4.03 Cond. 3900 uS ORP 229.8 mV DO 100%	YES	25 °C	MM

# TEST EQUIPMENT CALIBRATION LOG

PROJECT NAME <i>825 Stewart Dr. Sunnyvale CA</i>		PROJECT NUMBER <i>171009-MM1</i>					
EQUIPMENT NAME	EQUIPMENT NUMBER	DATE/TIME OF TEST	STANDARDS USED	EQUIPMENT READING	CALIBRATED TO: OR WITHIN 10%:	TEMP.	INITIALS
<i>YSI PR6 PLUS</i>	<i>16M160926</i>	<i>10-13-17</i>	<i>pH 7.6 10.0 4.6</i>	<i>pH 6.99 9.98 4.00</i>	<i>Yes</i>		<i>mm</i>
<i>↓</i>	<i>↓</i>	<i>↓</i>	<i>Concl. 3900us</i>	<i>Concl. 3899us</i>	<i>Yes</i>		<i>mm</i>
<i>↓</i>	<i>↓</i>	<i>↓</i>	<i>ORP 232.3mv DO 100.6</i>	<i>ORP 231.0mv DO 100.2%</i>	<i>Yes</i>	<i>24°C</i>	<i>mm</i>

**Appendix B**  
**Historical Water-Level Elevation Measurements**

**Historical Water-Level Elevation Measurements  
Former TRW Microwave Facility  
825 Stewart Drive, Sunnyvale, California**

Well Number	Zone	Top of Casing Elevation (feet, MSL)	Date Measured	Depth to Water (feet below top of casing)	Water-Level Elevation (feet, MSL)
T-1A	A				
Per Water Board approval, well T-1A was abandoned in February 2004.					
		38.46	10/9/2003	9.01	29.45
			10/14/2002	10.36	28.10
			10/1/2001	10.64	27.82
			10/2/2000	11.91	26.55
			10/4/1999	10.79	27.67
			4/5/1999	10.42	28.04
			10/5/1998	10.70	27.76
			4/1/1998	9.48	28.98
			10/1/1997	11.99	26.47
			4/1/1997	10.83	28.83
			10/1/1996	12.94	26.72
			7/10/1996	12.67	26.99
			10/9/1995	11.40	28.26
			7/5/1995	NM	NA
			4/5/1995	9.48	30.18
			1/10/1995	NM	NA
			10/5/1994	10.59	29.07
			7/6/1994	10.51	29.15
			4/4/1994	11.27	28.39
			1/11/1994	14.03	25.63
			10/15/1993	NM	NA
			7/6/1993	NM	NA
			4/5/1993	17.82	21.84
			1/5/1993	19.50	20.16
			10/29/1992	19.93	19.73
			7/6/1992	20.13	19.53
			4/6/1992	19.41	20.25
			1/6/1992	20.17	19.49
			10/7/1991	21.27	18.39
			7/9/1991	22.22	17.44
			4/9/1991	19.72	19.94
			1/8/1991	21.15	18.51
			10/9/1990	20.66	19.00
			7/5/1990	19.20	20.46
			4/6/1990	18.86	20.80
			1/8/1990	20.03	19.63
			10/10/1989	18.13	21.53
			9/14/1989	17.87	21.79
		39.66	4/3/1989	18.63	21.03
			1/10/1989	15.07	24.59
			10/25/1988	15.17	22.31
			7/26/1988	14.69	22.79
			4/12/1988	12.62	24.86
			2/24/1988	11.70	25.78
			11/30/1987	11.64	25.84
			10/2/1987	9.75	27.73
			7/24/1986	8.93	28.55
			5/13/1986	8.15	29.33
			4/23/1986	8.50	28.98
			3/14/1986	6.35	31.13
		37.48	1/16/1986	7.50	29.98

**Historical Water-Level Elevation Measurements  
Former TRW Microwave Facility  
825 Stewart Drive, Sunnyvale, California**

Well Number	Zone	Top of Casing Elevation (feet, MSL)	Date Measured	Depth to Water (feet below top of casing)	Water-Level Elevation (feet, MSL)
T-2A	A				
Per USEPA approval, well T-2A was destroyed.					
		42.16	9/24/2014	8.08	34.08
			4/14/2014	8.05	34.11
			10/14/2013	8.53	33.63
			10/8/2012	8.03	34.13
			10/10/2011	8.01	34.15
			10/11/2010	8.45	33.71
			10/12/2009	8.78	33.38
			10/13/2008	7.83	34.33
			10/8/2007	7.39	34.77
			10/16/2006	7.69	31.77
		10/10/2005	7.82	31.64	
		10/4/2004	9.02	30.44	
		10/9/2003	8.56	30.90	
		39.46	10/1/2002	9.42	30.04
			10/1/2001	11.46	29.53
			10/2/2000	13.22	27.77
			10/4/1999	16.87	24.12
			4/5/1999	14.51	26.48
			10/5/1998	Dry	NA
			4/1/1998	12.08	28.91
			10/1/1997	16.70	24.29
			4/1/1997	17.32	22.36
			10/1/1996	12.56	27.12
		7/10/1996	17.45	22.23	
		10/9/1995	18.60	21.08	
		7/5/1995	19.25	20.43	
		4/5/1995	17.91	21.77	
		1/10/1995	18.65	21.03	
		10/5/1994	Dry	NA	
		7/6/1994	18.97	20.71	
		4/4/1994	Dry	NA	
		1/11/1994	18.47	21.21	
		10/15/1993	Dry	NA	
		7/6/1993	17.54	22.14	
		4/5/1993	17.34	22.34	
		1/5/1993	Dry	NA	
		10/29/1992	16.61	23.07	
		7/6/1992	15.26	24.42	
		4/6/1992	16.91	22.77	
		1/6/1992	16.37	23.31	
		10/7/1991	17.16	22.52	
		7/9/1991	16.66	23.02	
		4/9/1991	NM	NA	
		1/8/1991	10.18	29.50	
		10/9/1990	16.64	23.04	
		7/5/1990	16.06	23.62	
		4/6/1990	17.40	22.28	
		1/8/1990	12.88	26.80	
		10/10/1989	15.77	23.91	
		9/14/1989	16.31	23.37	
		4/3/1989	12.55	27.13	
		1/10/1989	15.50	24.18	
		10/25/1988	15.88	23.77	
		7/26/1988	15.59	24.06	
		4/12/1988	15.32	24.33	
		2/24/1988	11.74	27.91	
		11/30/1987	12.15	27.50	
		10/2/1987	10.67	28.98	
		7/24/1986	12.73	26.92	
		5/13/1986	23.00	16.65	
		39.65			

**Historical Water-Level Elevation Measurements  
Former TRW Microwave Facility  
825 Stewart Drive, Sunnyvale, California**

Well Number	Zone	Top of Casing Elevation (feet, MSL)	Date Measured	Depth to Water (feet below top of casing)	Water-Level Elevation (feet, MSL)
T-3A	A				
Per USEPA approval, well T-3A was destroyed.					
		41.74	9/24/2014	7.68	34.06
			4/14/2014	7.54	34.20
			10/14/2013	7.99	33.75
			10/8/2012	7.59	41.74
			10/10/2011	7.48	34.26
			10/11/2010	7.92	33.82
			10/12/2009	8.32	33.42
			10/13/2008	7.28	34.46
			10/8/2007	6.78	34.96
			10/16/2006	7.11	31.93
			10/10/2005	7.25	31.79
			10/4/2004	8.56	30.48
			10/9/2003	8.07	30.97
			10/14/2002	8.90	30.14
		10/1/2001	9.23	29.81	
		10/2/2000	9.97	29.07	
		10/4/1999	9.69	29.35	
		4/5/1999	9.46	29.58	
		10/5/1998	6.52	32.52	
		4/1/1998	8.42	30.62	
		10/1/1997	10.82	28.22	
		4/1/1997	10.03	29.44	
		10/1/1996	11.69	27.78	
		7/10/1996	11.37	28.10	
		10/9/1995	11.73	27.74	
		7/5/1995	11.42	28.05	
		4/5/1995	9.70	29.77	
		1/10/1995	10.35	29.12	
		10/5/1994	10.72	28.75	
		7/6/1994	13.34	26.13	
		4/4/1994	13.64	25.83	
		1/11/1994	14.04	25.43	
		10/15/1993	13.73	25.74	
		7/6/1993	13.12	26.35	
		4/5/1993	10.95	28.52	
		1/5/1993	11.34	28.13	
		10/29/1992	11.00	28.47	
		7/6/1992	14.90	24.57	
		4/6/1992	11.28	28.19	
		1/6/1992	12.25	27.22	
		10/7/1991	11.06	28.41	
		7/9/1991	12.50	26.97	
		4/9/1991	11.80	27.67	
		1/8/1991	10.65	28.82	
		10/9/1990	12.57	26.90	
		7/5/1990	10.22	29.25	
		4/6/1990	10.17	29.30	
		1/8/1990	9.73	29.74	
		10/10/1989	10.76	28.71	
		9/14/1989	10.04	29.43	
		4/3/1989	9.12	30.35	
		1/10/1989	NM	NA	
		10/25/1988	9.75	29.91	
		7/26/1988	10.01	29.65	
		4/12/1988	9.30	30.36	
		2/24/1988	9.62	30.04	
		11/30/1987	9.78	29.88	
		10/2/1987	8.68	30.98	
		7/24/1986	9.89	29.77	
		5/13/1986	9.75	29.91	
		4/23/1986	9.50	30.16	
		3/14/1986	7.16	32.50	
		1/15/1986	7.90	31.76	
		39.66			

**Historical Water-Level Elevation Measurements  
Former TRW Microwave Facility  
825 Stewart Drive, Sunnyvale, California**

<b>Well Number</b>	<b>Zone</b>	<b>Top of Casing Elevation (feet, MSL)</b>	<b>Date Measured</b>	<b>Depth to Water (feet below top of casing)</b>	<b>Water-Level Elevation (feet, MSL)</b>	
T-6A	A	39.92	--	NM	--	
			10/12/2015	NM	--	
			10/12/2015	NM	--	
			10/14/2013	NM	--	
			10/8/2012	NM	--	
			10/10/2011	NM	--	
			10/11/2010	NM	--	
		10/12/2009	8.42	31.50		
		10/13/2008	NM	--		
		39.92	10/8/2007	8.00	31.92	
			10/16/2006	8.21	29.01	
			10/10/2005	8.45	28.77	
			10/9/2003	7.29	29.93	
			10/14/2002	8.31	28.91	
			10/1/2001	8.40	28.82	
			10/2/2000	10.55	26.67	
			10/4/1999	10.37	26.85	
			4/5/1999	9.96	27.26	
			10/5/1998	10.17	27.05	
			37.22	4/1/1998	9.02	28.20
				10/1/1997	11.23	25.99
				4/1/1997	10.05	27.76
				10/1/1996	11.69	26.12
				7/10/1996	11.77	26.04
		10/9/1995		11.40	26.41	
		7/5/1995		11.17	26.64	
		4/5/1995		8.89	28.92	
		1/10/1995		10.66	27.15	
		10/5/1994		10.80	27.01	
		7/6/1994		11.54	26.27	
		4/4/1994		11.90	25.91	
		1/11/1994		12.48	25.33	
		10/15/1993		11.28	26.53	
		37.81		7/6/1993	12.48	25.33
			4/5/1993	11.63	26.18	
			1/5/1993	12.98	24.83	
			10/29/1992	13.08	24.73	
			7/6/1992	14.20	23.61	
			4/6/1992	14.47	23.34	
			1/6/1992	16.33	21.48	
			10/7/1991	15.73	22.08	
			7/9/1991	14.79	23.02	
			4/9/1991	15.33	22.48	
			1/8/1991	16.03	21.78	
			10/9/1990	16.12	21.69	
			7/5/1990	NM	NA	
			4/6/1990	15.29	22.52	
1/8/1990	15.44		22.37			
10/10/1989	14.92	22.89				
9/14/1989	14.76	23.05				
4/3/1989	14.34	23.47				
37.99	1/10/1989	13.42	24.39			
	10/25/1988	13.35	24.64			
	7/26/1988	12.95	25.04			
	4/12/1988	12.61	25.38			
	2/24/1988	12.15	25.84			
	11/30/1987	12.30	25.69			
	10/2/1987	11.63	26.36			
	7/24/1986	10.14	27.85			
	5/13/1986	9.85	28.14			
	1/15/1986	9.75	30.17			

**Historical Water-Level Elevation Measurements  
Former TRW Microwave Facility  
825 Stewart Drive, Sunnyvale, California**

<b>Well Number</b>	<b>Zone</b>	<b>Top of Casing Elevation (feet, MSL)</b>	<b>Date Measured</b>	<b>Depth to Water (feet below top of casing)</b>	<b>Water-Level Elevation (feet, MSL)</b>
T-7A	A	42.09	10/9/2017	6.80	35.29
			10/10/2016	7.70	34.39
			10/12/2015	7.71	34.38
			10/13/2014	6.89	35.20
			10/14/2013	7.11	34.98
			10/8/2012	6.75	35.34
			10/10/2011	6.60	35.49
		10/11/2010	7.05	35.04	
		10/12/2009	7.31	34.78	
		10/13/2008	6.54	35.55	
		42.09	10/8/2007	6.14	35.95
			10/16/2006	6.33	33.06
			10/10/2005	6.44	32.95
			10/4/2004	7.68	31.71
			10/9/2003	7.07	32.32
			10/14/2002	8.23	31.16
			10/1/2001	8.37	30.60
		39.39	10/2/2000	8.41	30.56
			10/4/1999	8.55	30.42
			4/5/1999	8.37	30.60
			10/5/1998	8.22	30.75
			4/1/1998	7.46	31.51
			10/1/1997	9.34	29.63
			4/1/1997	8.60	30.93
		38.97	10/1/1996	10.10	29.43
			7/10/1996	10.11	29.42
			10/9/1995	9.76	29.77
			7/5/1995	10.55	28.98
			4/5/1995	8.56	30.97
			1/10/1995	8.88	30.65
			10/5/1994	10.60	28.93
			7/6/1994	12.21	27.32
			4/4/1994	12.52	27.01
			1/11/1994	12.45	27.08
			10/15/1993	12.04	27.49
			7/6/1993	11.53	28.00
			4/5/1993	11.04	28.49
			1/5/1993	10.77	28.76
			10/29/1992	13.26	26.27
			7/6/1992	15.61	23.92
		4/6/1992	14.84	24.69	
		1/6/1992	13.61	25.92	
		10/7/1991	18.18	21.35	
7/9/1991	17.39	22.14			
4/9/1991	14.97	24.56			
1/8/1991	17.67	21.86			
10/9/1990	16.46	23.07			
7/5/1990	16.19	23.34			
4/6/1990	15.29	24.24			
1/8/1990	15.13	24.40			
10/10/1989	11.71	27.82			
9/14/1989	10.17	29.36			
4/3/1989	12.21	27.32			
1/10/1989	11.84	27.69			
39.53	10/25/1988	11.36	28.21		
	7/26/1988	11.22	28.35		
	4/12/1988	10.71	28.86		
	2/24/1988	10.09	29.48		
	11/30/1987	9.89	29.68		
	10/2/1987	9.01	30.56		
	7/24/1986	8.13	31.44		
	5/13/1986	8.19	31.38		
	4/22/1986	7.80	31.77		
	3/14/1986	6.20	33.37		
	3/12/1986	6.05	33.52		
39.57	1/16/1986	7.90	34.19		

**Historical Water-Level Elevation Measurements  
Former TRW Microwave Facility  
825 Stewart Drive, Sunnyvale, California**

<b>Well Number</b>	<b>Zone</b>	<b>Top of Casing Elevation (feet, MSL)</b>	<b>Date Measured</b>	<b>Depth to Water (feet below top of casing)</b>	<b>Water-Level Elevation (feet, MSL)</b>	
T-8A	A	40.38	10/9/2017	6.72	33.66	
			10/10/2016	7.47	32.91	
			10/12/2015	7.68	32.70	
			10/13/2014	6.67	33.71	
			4/14/2014	6.78	33.60	
			10/14/2013	7.25	33.13	
			10/8/2012	6.86	33.52	
			10/10/2011	6.68	33.70	
			10/11/2010	6.85*	33.53	
			4/5/2010	6.16	34.22	
			10/12/2009	7.50	32.88	
			10/13/2008	6.54	33.84	
			40.38	10/8/2007	6.02	34.36
		10/16/2006		6.35	31.33	
		10/10/2005		6.48	31.20	
		10/4/2004		7.70	29.98	
		10/9/2003		7.27	30.41	
		37.68		10/1/2002	8.10	29.58
				10/1/2001	8.43	29.89
				10/2/2000	9.43	28.89
				10/4/1999	8.88	29.44
				4/5/1999	8.75	29.57
				10/5/1998	9.27	29.05
				4/1/1998	8.21	30.11
				38.32	10/1/1997	10.95
			4/1/1997		10.95	27.37
			10/1/1996		13.00	25.32
			7/10/1996		13.09	25.23
			10/9/1995		16.02	22.30
			7/5/1995		15.90	22.42
		4/5/1995	12.76		25.56	
		1/10/1995	11.91		26.41	
		10/5/1994	11.95		26.37	
		7/6/1994	12.67		25.65	
		4/4/1994	13.20		25.12	
		1/11/1994	13.97		24.35	
		10/15/1993	15.78		22.54	
		7/6/1993	12.52	25.80		
		4/5/1993	15.57	22.75		
		1/5/1993	12.92	25.40		
		10/29/1992	13.23	25.09		
		7/6/1992	14.08	24.24		
		4/6/1992	14.76	23.56		
		1/6/1992	15.40	22.92		
		10/7/1991	15.68	22.64		
		7/9/1991	15.21	23.11		
		4/9/1991	14.54	23.78		
1/8/1991	15.84	22.48				
10/9/1990	15.46	22.86				
7/5/1990	14.73	23.59				
4/6/1990	15.11	23.21				
1/8/1990	14.10	24.22				
10/10/1989	16.67	21.65				
9/14/1989	14.40	23.92				
4/3/1989	15.06	23.26				
38.32	1/10/1989	NM	NA			
	10/25/1988	14.77	23.59			
	7/26/1988	15.85	22.51			
	4/12/1988	NM	NA			
	2/24/1988	11.09	27.27			
	11/30/1987	10.70	27.66			
	10/2/1987	9.66	28.70			
	7/24/1986	13.34	25.02			
	5/13/1986	11.55	26.81			
	38.36	3/10/1986	6.11	34.27		

**Historical Water-Level Elevation Measurements  
Former TRW Microwave Facility  
825 Stewart Drive, Sunnyvale, California**

Well Number	Zone	Top of Casing Elevation (feet, MSL)	Date Measured	Depth to Water (feet below top of casing)	Water-Level Elevation (feet, MSL)
T-9A	A	39.22	10/9/2017	6.93	32.29
			10/10/2016	7.61	31.61
			10/12/2015	7.90	31.32
			10/13/2014	6.60	32.62
			10/14/2013	7.71	31.51
			10/8/2012	7.26	31.96
			10/10/2011	7.07	32.15
			10/11/2010	7.53	31.69
			10/12/2009	7.89	31.33
			10/13/2008	6.80	32.42
			10/8/2007	6.33	32.89
			10/16/2006	6.77	23.02
			36.52	10/10/2005	6.53
		10/4/2004		7.84	29.37
		10/9/2003		7.51	29.70
		10/14/2002		8.27	28.94
		10/1/2001		8.67	28.54
		10/2/2000		11.30	25.91
		10/4/1999		9.94	27.27
		4/5/1999		10.07	27.14
		10/5/1998		9.17	28.04
		4/1/1998		8.57	28.64
		10/1/1997		11.29	25.92
		4/1/1997		9.88	27.34
		37.21		10/1/1996	11.03
			7/10/1996	10.67	26.55
			10/9/1995	11.33	25.89
			7/5/1995	11.00	26.22
			4/5/1995	8.84	28.38
			1/10/1995	11.12	26.10
			10/5/1994	12.72	24.50
			7/6/1994	12.85	24.37
			4/4/1994	12.93	24.29
			1/11/1994	15.20	22.02
			10/15/1993	13.26	23.96
			7/6/1993	12.80	24.42
			4/5/1993	14.12	23.10
		1/5/1993	Dry	NA	
		37.22	10/29/1992	13.21	24.01
			7/6/1992	13.97	23.25
			4/6/1992	14.52	22.70
			1/6/1992	15.04	22.18
			10/7/1991	15.34	21.88
			7/9/1991	14.94	22.28
			4/9/1991	14.31	22.91
			1/8/1991	15.57	21.65
			10/9/1990	15.26	21.96
7/5/1990	14.58		22.64		
4/6/1990	14.10		23.12		
1/8/1990	14.09		23.13		
10/10/1989	14.63		22.59		
9/14/1989	13.43	23.79			
4/3/1989	12.54	24.68			
1/10/1989	12.33	24.89			
10/25/1988	12.34	24.88			
7/26/1988	11.85	25.37			
4/12/1988	12.01	25.21			
2/24/1988	12.80	24.42			
11/30/1987	11.98	25.24			
10/2/1987	9.66	27.56			
5/13/1986	12.12	25.10			
3/17/1986	11.85	25.37			
3/14/1986	13.50	23.72			
37.22	3/12/1986	6.12	33.10		

**Historical Water-Level Elevation Measurements  
Former TRW Microwave Facility  
825 Stewart Drive, Sunnyvale, California**

<b>Well Number</b>	<b>Zone</b>	<b>Top of Casing Elevation (feet, MSL)</b>	<b>Date Measured</b>	<b>Depth to Water (feet below top of casing)</b>	<b>Water-Level Elevation (feet, MSL)</b>
T-13A	A	40.76	10/9/2017	7.03	33.73
			10/10/2016	7.99	32.77
			10/12/2015	8.06	32.70
			10/13/2014	7.01	33.75
			4/14/2014	7.02	33.74
			10/14/2013	7.49	33.27
			10/8/2012	7.12	33.64
			10/10/2011	7.04	33.72
			10/11/2010	7.44	33.32
			4/5/2010	6.38	34.38
			10/12/2009	7.78	32.98
		10/13/2008	6.92	33.84	
		10/8/2007	6.31	34.45	
10/16/2006	6.58	31.48			
T-14A	A	40.62	10/9/2017	6.94	33.68
			10/10/2016	7.67	32.95
			10/12/2015	7.93	32.69
			10/13/2014	6.92	33.70
			4/14/2014	7.01	33.61
			10/14/2013	7.46	33.16
			10/8/2012	7.07	33.55
			10/10/2011	6.93	33.69
			10/11/2010	7.38	33.24
			4/5/2010	6.28	34.34
			10/12/2009	7.71	32.91
		10/13/2008	6.73	33.89	
		10/8/2007	6.30	34.32	
10/16/2006	6.52	31.40			
T-15A	A	40.11	10/9/2017	6.82	33.29
			10/10/2016	7.81	32.3
			10/12/2015	7.81	32.30
			10/13/2014	6.72	33.39
			4/14/2014	6.92	33.19
			10/14/2013	7.38	32.73
			10/8/2012	6.98	33.13
			10/10/2011	6.81	33.30
			10/11/2010	7.28	32.83
			10/12/2009	7.61	32.50
			10/13/2008	6.68	33.43
		10/8/2007	6.15	33.96	
		10/16/2006	6.48	30.93	
T-16A	A	40.02	10/9/2017	6.97	33.05
			10/10/2016	7.68	32.34
			10/12/2015	7.83	32.19
			10/13/2014	6.77	33.25
			10/14/2013	7.56	32.46
			10/8/2012	7.11	32.91
			10/10/2011	6.91	33.11
			10/11/2010	7.36	32.66
			10/12/2009	7.74	32.28
			10/13/2008	6.75	33.27
			10/8/2007	6.30	33.72
		10/16/2006	6.60	30.72	
		T-17A	A	38.23	10/9/2017
10/10/2016	8.18				30.05
10/12/2015	8.18				30.05
10/13/2014	7.19				31.04
4/14/2014	7.30				30.93
10/14/2013	7.82			30.41	

**Historical Water-Level Elevation Measurements  
Former TRW Microwave Facility  
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Well Number	Zone	Top of Casing Elevation (feet, MSL)	Date Measured	Depth to Water (feet below top of casing)	Water-Level Elevation (feet, MSL)
36S	A	41.46	10/9/2017	6.40	35.06
			10/10/2016	6.94	34.52
			10/12/2015	7.28	34.18
		10/14/2013	DRY	--	
		10/8/2012	DRY	--	
		10/10/2011	6.25	35.21	
		10/11/2010	6.65	34.81	
		10/12/2009	6.83	34.63	
		10/13/2008	6.29	35.17	
		10/8/2007	5.92	35.54	
		10/16/2006	6.07	32.55	
		10/10/2005	6.20	32.42	
		10/4/2004	6.93	31.69	
		10/9/2003	6.60	32.02	
		10/14/2002	7.37	31.25	
		10/1/2001	7.47	31.15	
		10/2/2000	7.79	30.83	
		10/4/1999	7.70	30.92	
		4/5/1999	7.14	31.48	
		10/5/1998	7.39	31.23	
		4/1/1998	6.58	32.04	
		Oct-97+	8.50	30.12	
		4/1/1997	7.85	31.18	
		10/1/1996	9.40	29.63	
		7/10/1996	9.14	29.89	
		10/9/1995	9.02	30.01	
		7/5/1995	9.25	29.78	
		4/5/1995	7.59	31.44	
		1/10/1995	7.60	31.43	
		10/5/1994	9.37	29.66	
		7/6/1994	10.90	28.13	
		4/4/1994	11.48	27.55	
		1/11/1994	11.82	27.21	
		10/15/1993	11.40	27.63	
		7/6/1993	10.69	28.34	
		4/5/1993	9.66	29.37	
		1/5/1993	11.35	27.68	
		10/29/1992	11.81	27.22	
		7/6/1992	11.80	27.23	
		4/6/1992	9.36	29.67	
		1/6/1992	12.98	26.05	
		10/7/1991	14.23	24.80	
		7/9/1991	13.93	25.10	
4/9/1991	13.08	25.95			
1/8/1991	Dry	NA			
10/9/1990	11.33	27.70			
7/5/1990	13.67	25.36			
4/6/1990	12.64	26.39			
1/8/1990	10.87	28.16			
10/10/1989	10.72	28.31			
9/14/1989	10.79	28.24			
4/3/1989	11.60	27.43			
1/10/1989	11.14	27.89			
10/25/1988	10.93	28.28			
7/26/1988	10.47	28.74			
4/12/1988	10.19	29.02			
2/24/1988	9.54	29.67			
11/30/1987	9.33	29.88			
10/2/1987	8.55	30.66			
7/24/1986	7.42	31.79			
5/13/1986	6.51	32.70			
4/21/1986	7.50	31.71			
3/14/1986	5.94	33.27			
3/12/1986	6.08	33.13			
1/15/1986	7.50	33.96			
		38.62			
		39.03			
		39.21			

**Historical Water-Level Elevation Measurements  
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Well Number	Zone	Top of Casing Elevation (feet, MSL)	Date Measured	Depth to Water (feet below top of casing)	Water-Level Elevation (feet, MSL)
36D	A	41.26	10/9/2017	6.18	35.08
			10/10/2016	6.92	34.34
			10/12/2015	7.04	34.22
			10/14/2013	6.44	34.82
			10/8/2012	6.20	35.06
			10/10/2011	6.03	35.23
			10/11/2010	6.43	34.83
			10/12/2009	6.61	34.65
			10/13/2008	6.02	35.24
			10/8/2007	5.67	35.59
		41.26	10/16/2006	5.82	32.58
			10/10/2005	5.96	32.44
			10/4/2004	6.72	31.68
			10/9/2003	6.40	32.00
			10/14/2002	7.12	31.28
			10/1/2001	7.24	31.16
			10/2/2000	7.52	30.88
			10/4/1999	7.43	30.97
			4/5/1999	7.17	31.23
			10/5/1998	7.19	31.21
		38.40	4/1/1998	6.38	32.02
			Oct-97+	8.20	30.20
			4/1/1997	7.61	31.27
			10/1/1996	9.16	29.72
			7/10/1996	8.89	29.99
			10/9/1995	8.71	30.17
			7/5/1995	9.03	29.85
			4/5/1995	7.41	31.47
			1/10/1995	7.57	31.31
			10/5/1994	9.02	29.86
		38.88	7/6/1994	10.76	28.12
			4/4/1994	11.26	27.62
			1/11/1994	11.62	27.26
			10/15/1993	11.26	27.62
			7/6/1993	10.60	28.28
			4/5/1993	11.00	27.88
			1/5/1993	11.67	27.21
			10/5/1992	11.40	27.48
			7/6/1992	12.52	26.36
			4/6/1992	10.68	28.20
		38.88	1/6/1992	14.37	24.51
			10/7/1991	14.51	24.37
			7/9/1991	14.28	24.60
			4/9/1991	13.66	25.22
			1/8/1991	14.83	24.05
			10/9/1990	13.26	25.62
			7/5/1990	13.93	24.95
			4/6/1990	13.55	25.33
			1/8/1990	12.51	26.37
			10/10/1989	11.68	27.20
38.88	9/14/1989	11.71	27.17		
	4/3/1989	11.35	27.53		
	1/10/1989	10.95	27.93		
	10/25/1988	10.74	28.32		
	7/26/1988	10.23	28.83		
	4/12/1988	9.96	29.10		
	2/24/1988	9.35	29.71		
	11/30/1987	9.08	29.98		
	10/2/1987	8.32	30.74		
	7/24/1986	7.32	31.74		
38.88	5/13/1986	7.37	31.69		
	4/23/1986	NM	NA		
	4/22/1986	7.20	31.86		
	4/21/1986	NM	NA		
	3/17/1986	NM	NA		
	3/14/1986	5.82	33.24		
	3/12/1986	5.90	33.16		
	3/10/1986	NM	NA		

**Historical Water-Level Elevation Measurements  
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<b>Well Number</b>	<b>Zone</b>	<b>Top of Casing Elevation (feet, MSL)</b>	<b>Date Measured</b>	<b>Depth to Water (feet below top of casing)</b>	<b>Water-Level Elevation (feet, MSL)</b>
		39.06	1/15/1986	7.50	33.76

**Historical Water-Level Elevation Measurements  
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<b>Well Number</b>	<b>Zone</b>	<b>Top of Casing Elevation (feet, MSL)</b>	<b>Date Measured</b>	<b>Depth to Water (feet below top of casing)</b>	<b>Water-Level Elevation (feet, MSL)</b>
37S	A	42.06	10/9/2017	6.70	35.36
			10/10/2016	7.58	34.48
			10/12/2015	7.71	34.35
			10/14/2013	7.01	35.05
			10/8/2012	6.56	35.50
			10/10/2011	6.43	35.63
		10/11/2010	6.92	35.14	
		10/12/2009	7.30	34.76	
		10/13/2008	6.20	35.86	
		10/8/2007	5.60	36.46	
		10/16/2006	5.95	33.84	
		10/10/2005	6.21	33.58	
		10/4/2004	7.82	31.97	
		10/9/2003	7.38	32.41	
		10/14/2002	8.23	31.56	
		10/1/2001	8.40	30.84	
		10/2/2000	8.49	30.75	
		10/4/1999	7.70	30.92	
		10/4/1999	8.36	30.88	
		4/5/1999	7.14	31.48	
		4/5/1999	8.33	30.91	
		10/5/1998	8.42	30.82	
		4/1/1998	7.38	31.86	
		Oct-97+	9.20	30.04	
		4/1/1997	8.29	31.41	
		10/1/1996	9.67	30.03	
		7/10/1996	9.25	30.45	
		10/9/1995	9.86	29.84	
		7/5/1995	9.85	29.85	
		4/5/1995	8.34	31.36	
		1/10/1995	10.56	29.14	
		10/5/1994	10.69	29.01	
		7/6/1994	11.81	27.89	
		4/4/1994	12.46	27.24	
		1/11/1994	12.73	26.97	
		10/15/1993	11.72	27.98	
		7/6/1993	12.01	27.69	
		4/5/1993	9.80	29.90	
		1/5/1993	Dry	NA	
		10/29/1992	Dry	NA	
		7/6/1992	Dry	NA	
		4/6/1992	Dry	NA	
1/6/1992	Dry	NA			
10/7/1991	Dry	NA			
7/9/1991	Dry	NA			
4/9/1991	Dry	NA			
1/8/1991	Dry	NA			
10/9/1990	Dry	NA			
7/5/1990	Dry	NA			
4/6/1990	Dry	NA			
1/8/1990	Dry	NA			
10/10/1989	12.20	27.50			
9/14/1989	11.73	27.97			
4/3/1989	13.00	26.70			
1/10/1989	12.47	27.23			
10/25/1988	12.03	28.16			
7/26/1988	11.92	28.27			
4/12/1988	11.24	28.95			
2/24/1988	10.65	29.54			
11/30/1987	10.64	29.55			
10/2/1987	8.53	31.66			
7/24/1986	8.53	31.66			
5/13/1986	8.54	31.65			
3/14/1986	6.44	33.75			
3/12/1986	6.42	33.77			
1/15/1986	8.20	33.86			
		39.79			
		42.06			
		39.24			
		39.70			
		40.19			

**Historical Water-Level Elevation Measurements  
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<b>Well Number</b>	<b>Zone</b>	<b>Top of Casing Elevation (feet, MSL)</b>	<b>Date Measured</b>	<b>Depth to Water (feet below top of casing)</b>	<b>Water-Level Elevation (feet, MSL)</b>
38S	A	41.05	10/9/2017	7.92	33.13
			10/10/2016	8.79	32.26
			10/12/2015	8.97	32.08
			10/14/2013	8.64	32.41
			10/8/2012	8.25	32.80
			10/10/2011	8.05	33.00
			10/11/2010	8.55	32.50
		10/12/2009	9.02	32.03	
		10/13/2008	7.71	33.34	
		10/8/2007	7.07	33.98	
		10/16/2006	7.56	30.79	
		10/10/2005	7.57	30.78	
		10/4/2004	9.12	29.23	
		10/9/2003	8.63	29.72	
		10/14/2002	9.57	28.78	
		10/1/2001	10.05	28.30	
		10/2/2000	11.21	27.14	
		10/4/1999	10.50	27.85	
		4/5/1999	10.72	27.63	
		10/5/1998	10.81	27.54	
		4/1/1998	9.15	29.20	
		Oct-97+	11.63	26.72	
		4/1/1997	10.45	28.40	
		10/1/1996	11.91	26.94	
		7/10/1996	11.74	27.11	
		10/9/1995	12.12	26.73	
		7/5/1995	11.62	27.23	
		4/5/1995	9.50	29.35	
		1/10/1995	11.36	27.49	
		10/5/1994	9.81	29.04	
		7/6/1994	13.70	25.15	
		4/4/1994	14.19	24.66	
		1/11/1994	14.45	24.40	
		10/15/1993	Dry	NA	
		7/6/1993	14.30	24.55	
		4/5/1993	13.08	25.77	
		1/5/1993	13.97	24.88	
		10/29/1992	Dry	NA	
		7/6/1992	Dry	NA	
		4/6/1992	Dry	NA	
		1/6/1992	Dry	NA	
		10/7/1991	Dry	NA	
		7/9/1991	Dry	NA	
		4/9/1991	Dry	NA	
		1/8/1991	Dry	NA	
		10/9/1990	Dry	NA	
		7/5/1990	Dry	NA	
4/6/1990	Dry	NA			
1/8/1990	Dry	NA			
10/10/1989	14.32	24.53			
9/14/1989	14.53	24.32			
4/3/1989	13.97	24.88			
1/10/1989	13.68	25.17			
10/25/1988	13.62	25.52			
7/26/1988	13.12	26.02			
4/12/1988	12.68	26.46			
2/24/1988	12.55	26.59			
11/30/1987	12.68	26.46			
10/2/1987	11.49	27.65			
7/24/1986	10.52	28.62			
5/13/1986	9.95	29.19			
3/14/1986	7.34	31.80			
1/15/1986	8.80	32.25			
		38.35			
		38.85			
		39.14			

**Historical Water-Level Elevation Measurements  
Former TRW Microwave Facility  
825 Stewart Drive, Sunnyvale, California**

Well Number	Zone	Top of Casing Elevation (feet, MSL)	Date Measured	Depth to Water (feet below top of casing)	Water-Level Elevation (feet, MSL)
EDUCTOR	A				
Per USEPA approval, the Eductor was destroyed.					
			9/24/2014	8.20	34.04
			4/14/2014	7.89	34.35
		*corrected for soybean oil	10/14/2013	8.45*	33.79
			10/8/2012	8.08	34.16
			10/10/2011	8.39	33.85
			10/11/2010	8.48	33.76
			10/12/2009	8.81	33.43
			10/13/2008	7.88	34.36
		42.24	10/8/2007	7.50	34.74
			10/16/2006	7.78	31.76
			10/10/2005	7.89	31.65
			10/4/2004	9.03	30.51
			10/9/2003	8.57	30.97
		39.54	10/1/2002	9.36	30.18
			10/1/2001	11.27	29.80
			10/2/2000	16.31	24.76
			10/4/1999	15.97	25.10
			4/5/1999	16.08	24.99
			10/5/1998	11.87	29.20
			4/1/1998	16.09	24.98
		41.07	10/1/1997	16.22	24.85
			4/1/1997	15.90	24.38
			10/1/1996	NM	NA
			7/10/1996	16.37	23.91
			10/9/1995	16.25	24.03
			7/5/1995	16.08	24.20
			4/5/1995	16.11	24.17
			1/10/1995	15.98	24.30
			10/5/1994	16.24	24.04
			7/6/1994	16.35	23.93
			4/4/1994	16.56	23.72
			1/11/1994	16.50	23.78
			10/15/1993	16.54	23.74
			7/6/1993	16.37	23.91
			4/5/1993	15.08	25.20
			1/5/1993	15.54	24.74
			10/29/1992	13.92	26.36
			7/6/1992	15.60	24.68
			4/6/1992	15.13	25.15
			1/6/1992	15.25	25.03
			10/7/1991	16.72	23.56
			7/9/1991	16.04	24.24
			4/9/1991	14.99	25.29
			1/8/1991	12.66	27.62
			10/9/1990	12.76	27.52
			7/5/1990	11.72	28.56
			4/6/1990	11.89	28.39
			1/8/1990	12.07	28.21
			10/10/1989	12.40	27.88
			9/14/1989	11.55	28.73
			4/3/1989	11.63	28.65
		40.28	1/10/1989	10.59	29.69
			10/25/1988	12.33	27.95
			7/26/1988	13.30	26.98
			4/12/1988	12.95	27.33
			2/24/1988	12.74	27.54
			11/30/1987	NM	NA
			10/2/1987	11.50	28.78
		40.28	5/13/1986	11.59	30.65

**Historical Water-Level Elevation Measurements  
Former TRW Microwave Facility  
825 Stewart Drive, Sunnyvale, California**

Well Number	Zone	Top of Casing Elevation (feet, MSL)	Date Measured	Depth to Water (feet below top of casing)	Water-Level Elevation (feet, MSL)
T-1B	B1				
Per Water Board approval, well 1B was abandoned in February 2004.					
			10/9/2003	9.31	29.71
			10/14/2002	10.99	28.03
			10/1/2001	11.54	27.48
			10/2/2000	13.09	25.93
			10/4/1999	11.46	27.56
			4/5/1999	11.87	27.15
			10/5/1998	11.66	27.36
			4/1/1998	10.56	28.46
		39.02	10/1/1997	12.90	26.12
		39.53	4/1/1997	11.88	27.65
			10/1/1996	14.51	25.17
			7/10/1996	13.97	25.71
			10/9/1995	12.84	26.84
			7/5/1995	13.86	25.82
			4/5/1995	10.95	28.73
			1/10/1995	12.60	27.08
			10/5/1994	12.80	26.88
			7/6/1994	13.47	26.21
			4/4/1994	15.01	24.67
			1/11/1994	16.93	22.75
			10/15/1993	13.34	26.34
			7/6/1993	19.64	20.04
			4/5/1993	18.52	21.16
			1/5/1993	20.28	19.40
			10/5/1992	18.86	20.82
			7/6/1992	20.38	19.30
			4/6/1992	19.53	20.15
			1/6/1992	20.94	18.74
			10/7/1991	21.78	17.90
			7/12/1991	21.05	18.63
			4/9/1991	20.54	19.14
			1/8/1991	21.60	18.08
			10/9/1990	21.07	18.61
			7/5/1990	19.92	19.76
			4/6/1990	19.38	20.30
			1/8/1990	20.54	19.14
			10/10/1989	18.49	21.19
			9/14/1989	18.23	21.45
			4/3/1989	18.95	20.73
		39.68	1/10/1989	15.46	24.22
			10/25/1988	15.90	21.50
			7/26/1988	15.21	22.19
			4/12/1988	14.03	23.37
			2/24/1988	12.86	24.54
			11/30/1987	12.70	24.70
			10/2/1987	10.45	26.95
			7/24/1986	9.75	27.65
			5/13/1986	8.23	29.17
			4/21/1986	9.40	28.00
			3/14/1986	7.47	29.93
			3/12/1986	6.29	31.11
		37.40	1/16/1986	7.70	29.70

**Historical Water-Level Elevation Measurements  
Former TRW Microwave Facility  
825 Stewart Drive, Sunnyvale, California**

Well Number	Zone	Top of Casing Elevation (feet, MSL)	Date Measured	Depth to Water (feet below top of casing)	Water-Level Elevation (feet, MSL)	
T-2B	B1					
Per USEPA approval, well T-2B was destroyed.						
		42.23	9/24/2014	8.18	34.05	
			4/14/2014	7.91	34.32	
			10/13/2013	8.36	33.87	
			10/8/2012	8.08	34.15	
			10/10/2011	7.89	34.34	
			10/11/2010	8.41	33.82	
			10/12/2009	8.82	33.41	
			10/13/2008	8.05	34.18	
			10/8/2007	7.29	34.94	
			10/16/2006	7.57	31.96	
		10/10/2005	7.71	31.82		
		10/4/2004	9.04	30.49		
		10/9/2003	8.56	30.97		
		39.53	10/1/2002	9.79	29.74	
			10/1/2001	9.76	29.48	
			10/2/2000	10.76	28.48	
			10/4/1999	25.48	13.76	
			4/5/1999	Dry	NA	
			10/5/1998	11.89	27.35	
			4/1/1998	25.58	13.66	
			39.24	10/1/1997	NM	NA
				4/1/1997	26.15	13.52
				10/1/1996	14.08	25.59
		7/10/1996		23	16.67	
		10/9/1995		25.44	14.23	
		7/5/1995		22.58	17.09	
		4/5/1995		10.75	28.92	
		1/10/1995		26.98	12.69	
		10/5/1994		25.32	14.35	
		7/6/1994		21.36	18.31	
		4/4/1994	26.18	13.49		
		1/11/1994	21.31	18.36		
		10/15/1993	22.98	16.69		
		7/6/1993	26.50	13.17		
		4/5/1993	24.94	14.73		
		1/5/1993	24.65	15.02		
		10/5/1992	26.35	13.32		
		7/6/1992	15.70	23.97		
		4/6/1992	27.36	12.31		
		1/6/1992	16.95	22.72		
		10/7/1991	29.98	9.69		
		7/12/1991	24.67	15.00		
		4/9/1991	24.75	14.92		
		1/8/1991	24.32	15.35		
		10/9/1990	23.96	15.71		
		7/5/1990	29.13	10.54		
		4/6/1990	24.96	14.71		
		1/8/1990	22.99	16.68		
		10/10/1989	23.53	16.14		
		9/14/1989	23.42	16.25		
		4/3/1989	23.84	15.83		
		39.67	1/10/1989	26.07	13.60	
			10/25/1988	26.29	13.40	
			7/26/1988	23.00	16.69	
			4/12/1988	24.56	15.13	
			2/24/1988	26.00	13.69	
			11/30/1987	25.89	13.80	
			10/2/1987	20.46	19.23	
			7/24/1986	19.23	20.46	
			5/13/1986	26.24	13.45	
			39.69	3/14/1986	9.19	33.04

**Historical Water-Level Elevation Measurements  
Former TRW Microwave Facility  
825 Stewart Drive, Sunnyvale, California**

<b>Well Number</b>	<b>Zone</b>	<b>Top of Casing Elevation (feet, MSL)</b>	<b>Date Measured</b>	<b>Depth to Water (feet below top of casing)</b>	<b>Water-Level Elevation (feet, MSL)</b>
T-4B	B1	40.93	10/9/2017	8.51	32.42
			10/10/2016	9.47	31.46
			10/12/2015	10.10	30.83
			10/13/2014	9.00	31.93
			10/14/2013	9.71	31.22
			10/8/2012	9.38	31.55
			10/10/2011	9.16	31.77
			10/11/2010	9.86	31.07
			10/12/2009	10.71	30.22
			10/13/2008	8.98	31.95
			10/8/2007	7.60	33.33
			10/16/2006	8.07	30.16
			10/10/2005	8.32	29.91
		10/4/2004	10.91	27.32	
		10/9/2003	11.00	27.23	
		10/14/2002	12.39	25.84	
		10/1/2001	13.36	24.87	
		10/2/2000	16.43	21.80	
		10/4/1999	14.07	24.16	
		4/5/1999	16.11	22.12	
		10/5/1998	13.89	24.34	
		4/1/1998	12.93	25.30	
		10/1/1997	15.89	22.34	
		4/1/1997	15.63	23.07	
		10/1/1996	18.70	20.00	
		7/10/1996	16.78	21.92	
		10/9/1995	16.75	21.95	
		7/5/1995	16.33	22.37	
		4/5/1995	14.26	24.44	
		1/10/1995	16.87	21.83	
		10/5/1994	17.33	21.37	
		7/6/1994	20.57	18.13	
		4/4/1994	22.16	16.54	
		1/11/1994	22.61	16.09	
		10/15/1993	19.84	18.86	
		7/6/1993	22.40	16.30	
		4/5/1993	21.46	17.24	
		1/5/1993	22.31	16.39	
		10/5/1992	20.42	18.28	
		7/6/1992	22.19	16.51	
		4/6/1992	21.83	16.87	
		1/6/1992	22.57	16.13	
		10/7/1991	24.44	14.26	
		7/9/1991	23.36	15.34	
		4/9/1991	22.69	16.01	
		1/8/1991	23.04	15.66	
		10/9/1990	22.95	15.75	
7/5/1990	NM	NA			
4/6/1990	20.47	18.23			
1/8/1990	21.53	17.17			
10/10/1989	19.50	19.20			
9/14/1989	19.64	19.06			
4/3/1989	20.95	17.75			
1/10/1989	20.75	17.95			
10/25/1988	20.98	17.98			
7/26/1988	19.87	19.09			
4/12/1988	19.63	19.33			
2/24/1988	18.67	20.29			
11/30/1987	19.59	19.37			
10/2/1987	15.32	23.64			
7/24/1986	15.88	23.08			
5/13/1986	11.51	27.45			
4/21/1986	15.60	23.36			
3/14/1986	12.96	26.00			
1/16/1986	9.30	31.63			
		38.23			
		38.70			
		38.96			

**Historical Water-Level Elevation Measurements  
Former TRW Microwave Facility  
825 Stewart Drive, Sunnyvale, California**

<b>Well Number</b>	<b>Zone</b>	<b>Top of Casing Elevation (feet, MSL)</b>	<b>Date Measured</b>	<b>Depth to Water (feet below top of casing)</b>	<b>Water-Level Elevation (feet, MSL)</b>
T-5B	B1	42.45	10/9/2017	8.41	34.04
			10/10/2016	9.44	33.01
			10/12/2015	10.06	32.39
			10/13/2014	9.62	32.83
			10/14/2013	9.99	32.46
			10/8/2012	10.33	32.12
			10/10/2011	10.04	32.41
			10/11/2010	10.45	32.00
			10/12/2009	14.55	27.90
			10/13/2008	15.72	26.73
		42.45	10/8/2007	4.99	37.46
			10/16/2006	5.31	34.44
			10/10/2005	6.17	33.58
			10/4/2004	13.70	26.05
			10/9/2003	13.95	25.80
			10/14/2002	15.43	24.32
			10/1/2001	14.99	24.22
			10/2/2000	19.25	19.96
			10/4/1999	10.46	28.75
			4/5/1999	19.38	19.83
		39.75	10/5/1998	17.77	21.44
			4/1/1998	15.45	23.76
			10/1/1997	17.32	21.89
			4/1/1997	17.28	22.39
			10/1/1996	20.60	19.07
			7/10/1996	20.65	19.02
			10/9/1995	18.24	21.43
			7/5/1995	18.75	20.92
			4/5/1995	17.70	21.97
			1/10/1995	18.75	20.92
		39.21	10/5/1994	18.77	20.90
			7/6/1994	20.93	18.74
			4/4/1994	21.13	18.54
			1/11/1994	22.15	17.52
			10/15/1993	20.65	19.02
			7/6/1993	21.08	18.59
			4/5/1993	21.24	18.43
			1/5/1993	19.04	20.63
			10/5/1992	17.55	22.12
			7/6/1992	20.80	18.87
		39.67	4/6/1992	20.59	19.08
			1/6/1992	23.07	16.60
			10/7/1991	23.79	15.88
			7/12/1991	23.00	16.67
			4/9/1991	22.81	16.86
			1/8/1991	23.27	16.40
10/9/1990	22.87		16.80		
7/5/1990	23.06		16.61		
4/6/1990	22.92		16.75		
1/8/1990	21.85		17.82		
40.67	10/10/1989	21.03	18.64		
	9/14/1989	21.12	18.55		
	4/3/1989	20.55	19.12		
	1/10/1989	20.80	18.87		
	10/25/1988	20.71	19.96		
	7/26/1988	18.63	22.04		
	4/12/1988	19.20	21.47		
	2/24/1988	16.62	24.05		
	11/30/1987	17.12	23.55		
	10/2/1987	15.75	24.92		
40.67	7/24/1986	10.86	29.81		
	5/13/1986	10.11	30.56		
	4/23/1986	11.20	29.47		
	3/14/1986	10.37	30.30		
		40.67	1/16/1986	10.00	32.45

**Historical Water-Level Elevation Measurements  
Former TRW Microwave Facility  
825 Stewart Drive, Sunnyvale, California**

<b>Well Number</b>	<b>Zone</b>	<b>Top of Casing Elevation (feet, MSL)</b>	<b>Date Measured</b>	<b>Depth to Water (feet below top of casing)</b>	<b>Water-Level Elevation (feet, MSL)</b>	
T-7B	B1	42.01	10/9/2017	5.61	36.4	
			10/10/2016	7.63	34.38	
			10/12/2015	7.57	34.44	
			10/13/2014	6.64	35.37	
			10/14/2013	6.73	35.28	
			10/8/2012	6.55	35.46	
			10/10/2011	6.39	35.62	
			10/11/2010	7.94*	34.07	
			10/12/2009	8.47	33.54	
			10/13/2008	8.76	33.25	
		42.01	10/8/2007	4.93	37.08	
			10/16/2006	5.14	34.17	
			10/10/2005	5.61	33.70	
			10/4/2004	9.35	29.96	
			10/9/2003	8.62	30.69	
			39.31	10/14/2002	12.24	27.07
				10/1/2001	12.67	26.20
				10/2/2000	14.68	24.19
				10/4/1999	11.31	27.56
				4/5/1999	14.74	24.13
		10/5/1998		13.62	25.25	
		4/1/1998		12.54	26.33	
		38.87		10/1/1997	14.34	24.53
				4/1/1997	14.22	25.22
				10/1/1996	16.68	22.76
			7/10/1996	16.35	23.09	
			10/9/1995	14.50	24.94	
			7/5/1995	15.71	23.73	
			4/5/1995	13.99	25.45	
			1/10/1995	15.45	23.99	
			10/5/1994	15.67	23.77	
			7/6/1994	17.76	21.68	
		39.44	4/4/1994	17.90	21.54	
			1/11/1994	19.20	20.24	
			10/15/1993	16.60	22.84	
			7/6/1993	17.95	21.49	
			4/5/1993	18.53	20.91	
			1/5/1993	19.15	20.29	
			10/5/1992	16.52	22.92	
			7/6/1992	17.63	21.81	
			4/6/1992	17.20	22.24	
			1/6/1992	20.98	18.46	
		39.44	10/7/1991	21.77	17.67	
7/12/1991	20.77		18.67			
4/9/1991	20.48		18.96			
1/8/1991	21.01		18.43			
10/9/1990	20.79		18.65			
7/5/1990	21.16		18.28			
4/6/1990	20.37		19.07			
1/8/1990	20.56		18.88			
10/10/1989	19.60		19.84			
9/14/1989	19.35		20.09			
39.44	4/3/1989	16.99	22.45			
	1/10/1989	17.82	21.62			
	10/25/1988	18.16	21.27			
	7/26/1988	16.37	23.06			
	4/12/1988	16.83	22.60			
	2/24/1988	15.21	24.22			
	11/30/1987	15.75	23.68			
	10/2/1987	13.98	25.45			
	7/24/1986	10.75	28.68			
	5/13/1986	9.65	29.78			
39.43	4/22/1986	11.00	28.43			
	3/14/1986	9.90	29.53			
	3/12/1986	8.16	31.27			
	1/16/1986	9.70	32.31			

**Historical Water-Level Elevation Measurements  
Former TRW Microwave Facility  
825 Stewart Drive, Sunnyvale, California**

Well Number	Zone	Top of Casing Elevation (feet, MSL)	Date Measured	Depth to Water (feet below top of casing)	Water-Level Elevation (feet, MSL)	
T-8B	B1	40.33	10/9/2017	6.71	33.62	
			10/10/2016	7.46	32.87	
			10/12/2015	7.72	32.61	
			10/13/2014	6.67	33.66	
			10/14/2013	7.31	33.02	
			10/8/2012	6.93	33.40	
			10/10/2011	6.74	33.59	
		10/11/2010	7.21	33.12		
		10/12/2009	7.60	32.73		
		10/13/2008	6.68	33.65		
		40.33	10/8/2007	6.05	34.28	
			10/16/2006	6.35	31.28	
			10/10/2005	6.46	31.17	
			10/4/2004	7.75	29.88	
			10/9/2003	7.34	30.29	
			37.63	10/1/2002	8.23	29.40
				10/1/2001	8.64	29.66
		10/2/2000		9.68	28.62	
		10/4/1999		14.37	23.93	
		4/5/1999		15.83	22.47	
		10/5/1998		14.77	23.53	
		4/1/1998		13.83	24.47	
		38.30	10/1/1997	13.44	24.86	
			4/1/1997	28.40	9.90	
			10/1/1996	30.87	7.43	
			7/10/1996	10.97	27.33	
			10/9/1995	31.00	7.30	
			7/5/1995	11.11	27.19	
			4/5/1995	31.59	6.71	
			1/10/1995	29.36	8.94	
			10/5/1994	25.92	12.38	
			7/6/1994	24.00	14.30	
			4/4/1994	23.25	15.05	
			1/11/1994	25.92	12.38	
			10/15/1993	21.81	16.49	
			7/6/1993	13.10	25.20	
			4/5/1993	24.44	13.86	
			1/5/1993	14.67	23.63	
			10/5/1992	14.51	23.79	
			7/6/1992	16.34	21.96	
			4/6/1992	20.11	18.19	
			1/6/1992	16.06	22.24	
			10/7/1991	27.44	10.86	
			7/12/1991	24.89	13.41	
			4/9/1991	25.41	12.89	
			1/8/1991	24.15	14.15	
			10/9/1990	23.80	14.50	
7/5/1990	24.13		14.17			
4/6/1990	26.09		12.21			
1/8/1990	14.56	23.74				
10/10/1989	13.86	24.44				
9/14/1989	22.32	15.98				
4/3/1989	24.65	13.65				
38.30	1/10/1989	NM	NA			
	10/25/1988	24.34	14.00			
	7/26/1988	12.47	25.87			
	4/12/1988	26.35	11.99			
	2/24/1988	30.26	8.08			
	11/30/1987	11.15	27.19			
	10/2/1987	21.02	17.32			
	7/24/1986	10.24	28.10			
	5/13/1986	23.50	14.84			
	3/17/1986	24.30	14.04			
38.34	3/10/1986	6.41	33.92			

**Historical Water-Level Elevation Measurements  
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Well Number	Zone	Top of Casing Elevation (feet, MSL)	Date Measured	Depth to Water (feet below top of casing)	Water-Level Elevation (feet, MSL)
T-9B	B1	38.89	10/9/2017	7.39	31.50
			10/10/2016	7.46	31.43
			10/12/2015	8.91	29.98
			10/13/2014	7.91	30.98
			10/14/2013	8.61	30.28
			10/8/2012	8.30	30.59
			10/10/2011	8.14	30.75
			10/11/2010	8.69	30.20
			10/12/2009	9.43	29.46
			10/13/2008	8.87	30.02
			10/8/2007	6.97	31.92
			10/16/2006	7.50	28.69
			10/10/2005	7.65	29.67
		10/4/2004	9.68	27.64	
		10/9/2003	10.20	27.12	
		10/14/2002	11.31	26.01	
		10/1/2001	11.73	25.59	
		10/2/2000	18.41	18.91	
		10/4/1999	14.94	22.38	
		4/5/1999	16.40	20.92	
		10/5/1998	12.62	24.70	
		4/1/1998	13.83	23.49	
		10/1/1997	15.82	21.50	
		4/1/1997	14.57	22.44	
		10/1/1996	16.98	20.13	
		7/10/1996	16.43	20.68	
		10/9/1995	14.82	22.29	
		7/5/1995	16.40	20.71	
		4/5/1995	13.00	24.11	
		1/10/1995	16.34	20.77	
		10/5/1994	22.64	14.47	
		7/6/1994	20.45	16.66	
		4/4/1994	28.23	8.88	
		1/11/1994	29.42	7.69	
		10/15/1993	26.50	10.61	
		7/6/1993	30.58	6.53	
		4/5/1993	28.91	8.20	
		1/5/1993	29.41	7.70	
		10/5/1992	29.77	7.34	
		7/6/1992	31.47	5.64	
		4/6/1992	30.91	6.20	
		1/6/1992	31.80	5.31	
		10/7/1991	Dry	NA	
		7/12/1991	31.91	5.20	
		4/9/1991	22.70	14.41	
		1/8/1991	23.99	13.12	
		10/9/1990	31.99	5.12	
7/5/1990	18.31	18.80			
4/6/1990	20.54	16.57			
1/8/1990	25.75	11.36			
10/10/1989	21.48	15.63			
9/14/1989	17.32	19.79			
4/3/1989	23.66	13.45			
1/10/1989	24.33	12.78			
10/25/1988	26.65	10.49			
7/26/1988	24.97	12.17			
4/12/1988	23.50	13.64			
2/24/1988	21.99	15.15			
11/30/1987	19.34	17.80			
10/2/1987	12.15	24.99			
7/24/1986	27.67	9.47			
5/13/1986	8.94	28.20			
3/17/1986	24.25	12.89			
3/14/1986	24.45	12.69			
3/12/1986	6.75	32.14			
		37.11			
		36.19			
		37.32			
		37.01			
		37.14			

**Historical Water-Level Elevation Measurements  
Former TRW Microwave Facility  
825 Stewart Drive, Sunnyvale, California**

<b>Well Number</b>	<b>Zone</b>	<b>Top of Casing Elevation (feet, MSL)</b>	<b>Date Measured</b>	<b>Depth to Water (feet below top of casing)</b>	<b>Water-Level Elevation (feet, MSL)</b>
T-10B	B1	40.09	10/9/2017	6.88	33.21
			10/10/2016	7.63	32.46
			10/14/2015	7.9	32.19
			10/13/2014	6.81	33.28
			10/14/2013	7.52	32.57
			10/8/2012	7.12	32.97
			10/10/2011	6.82	33.27
		10/11/2010	7.05*	33.04	
		10/12/2009	7.76	32.33	
		10/13/2008	6.81	33.28	
		10/8/2007	6.19	33.90	
		10/16/2006	6.56	30.83	
		10/10/2005	6.62	30.77	
		10/4/2004	7.86	29.53	
		10/9/2003	7.41	29.98	
10/14/2002	8.44	28.95			
10/1/2001	8.81	28.58			
T-17B	B1	40.61	10/9/2017	7.22	33.39
			10/10/2016	8.00	32.61
			10/12/2015	7.97	32.64
			10/13/2014	7.30	33.31
			4/14/2014	7.42	33.19
			10/14/2013	7.92	32.69
			10/8/2012	7.20	33.41
			10/10/2011	7.27	33.34
			10/11/2010	7.80	32.81
			10/12/2009	8.36	32.25
		10/13/2008	7.12	33.49	
10/8/2007	6.11	34.50			
10/16/2006	6.51	31.40			
T-18B	B1	38.78	10/9/2017	5.29	33.49
			10/10/2016	6.48	32.30
			10/12/2015	7.13	31.65
			10/13/2014	6.34	32.44
		10/14/2013	6.28	32.50	
38.78					
T-19B	B1	38.72	10/9/2017	5.54	33.18
			10/10/2016	6.59	32.13
			10/12/2015	8.14	30.58
			10/13/2014	7.38	31.34
		10/14/2013	7.20	31.52	
38.72					

**Historical Water-Level Elevation Measurements  
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Well Number	Zone	Top of Casing Elevation (feet, MSL)	Date Measured	Depth to Water (feet below top of casing)	Water-Level Elevation (feet, MSL)
T-2C	B2				
Per USEPA approval, well T-2C was destroyed.					
		41.38	9/24/2014	7.50	33.88
			4/14/2014	8.62	32.76
			10/14/2013	8.98	32.40
			10/8/2012	8.75	32.63
			10/10/2011	8.36	33.02
			10/11/2010	6.69	34.69
			10/12/2009	10.56	30.82
			10/13/2008	11.58	29.80
			10/8/2007	6.39	34.99
			10/16/2006	6.83	31.85
		10/10/2005	7.53	31.15	
		10/4/2004	11.01	27.67	
		10/9/2003	11.66	27.02	
		38.68	10/14/2002	13.91	24.77
			10/1/2001	17.50	22.01
			10/2/2000	18.40	21.11
			10/4/1999	25.18	14.33
			4/5/1999	31.50	8.01
			10/5/1998	15.45	24.06
			4/1/1998	19.25	20.26
			10/1/1997	29.50	10.01
			4/1/1997	33.65	5.72
			10/1/1996	31.00	8.37
		7/10/1996	31	8.37	
		10/9/1995	31.59	7.78	
		7/5/1995	35.45	3.92	
		4/5/1995	18.21	21.16	
		1/10/1995	34.94	4.43	
		10/5/1994	31.41	7.96	
		7/6/1994	35.63	3.74	
		4/4/1994	40.30	-0.93	
		1/11/1994	44.54	-5.17	
		10/15/1993	38.82	0.55	
		7/6/1993	40.11	-0.74	
		4/5/1993	37.88	1.49	
		1/5/1993	39.84	-0.47	
		10/5/1992	42.87	-3.50	
		7/6/1992	46.92	-7.55	
		4/6/1992	42.57	-3.20	
		1/6/1992	47.25	-7.88	
		10/7/1991	47.67	-8.30	
		7/12/1991	36.12	3.25	
		4/9/1991	31.69	7.68	
		1/8/1991	29.47	9.90	
		11/13/1990	40.05	-0.68	
		8/3/1990	50.84	-11.47	
		4/6/1990	40.29	-0.92	
		1/8/1990	31.47	7.90	
		10/10/1989	33.84	5.53	
		9/14/1989	44.24	-4.87	
		4/3/1989	38.92	0.45	
		1/10/1989	NM	NA	
		10/25/1988	36.86	2.54	
		7/26/1988	35.70	3.70	
		4/12/1988	NM	NA	
		2/24/1988	34.71	4.69	
		11/30/1987	35.18	4.22	
		10/29/1987	25.15	14.25	
		39.40	7/24/1986	29.65	11.73

**Historical Water-Level Elevation Measurements  
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<b>Well Number</b>	<b>Zone</b>	<b>Top of Casing Elevation (feet, MSL)</b>	<b>Date Measured</b>	<b>Depth to Water (feet below top of casing)</b>	<b>Water-Level Elevation (feet, MSL)</b>
T-9C	B3	38.81	10/9/2017	6.74	32.07
			10/10/2016	8.20	30.61
			10/12/2015	9.22	29.59
			10/13/2014	8.21	30.60
			10/14/2013	8.54	30.27
			10/8/2012	8.33	30.48
			10/10/2011	7.99	30.82
			10/11/2010	9.4	29.41
			10/12/2009	9.74	29.07
			10/13/2008	11.13	27.68
			10/8/2007	6.13	32.68
			10/16/2006	6.78	29.33
			10/10/2005	7.88	28.23
			10/4/2004	10.45	25.66
			10/9/2003	11.41	24.70
		10/14/2002	12.98	23.13	
		10/1/2001	15.28	20.83	
		10/2/2000	17.64	18.47	
		10/4/1999	12.70	23.41	
		4/5/1999	18.44	17.67	
		10/5/1998	14.83	21.28	
		4/1/1998	13.16	22.95	
		10/1/1997	17.15	18.96	
		4/1/1997	15.69	20.88	
		10/1/1996	22.10	14.57	
		7/10/1996	20.37	16.30	
		10/9/1995	18.43	18.24	
		7/5/1995	20.42	16.25	
		4/5/1995	18.23	18.44	
		1/10/1995	20.94	15.73	
		10/5/1994	18.96	17.71	
		7/6/1994	22.57	14.10	
		4/4/1994	23.61	13.06	
		1/11/1994	24.99	11.68	
		10/15/1993	23.70	12.97	
		7/6/1993	23.42	13.25	
		4/5/1993	22.00	14.67	
		1/5/1993	22.95	13.72	
		10/5/1992	19.03	17.64	
		7/6/1992	21.73	14.94	
		4/6/1992	21.37	15.30	
		1/6/1992	23.55	13.12	
10/7/1991	25.07	11.60			
7/12/1991	23.60	13.07			
4/9/1991	23.16	13.51			
1/8/1991	23.58	13.09			
11/13/1990	23.97	12.70			
8/3/1990	23.39	13.28			
4/6/1990	23.09	13.58			
1/8/1990	22.51	14.16			
10/10/1989	21.99	14.68			
8/23/1989	22.74	13.93			
4/3/1989	22.11	14.56			
1/10/1989	21.29	15.38			
10/25/1988	20.32	16.36			
7/26/1988	18.85	17.83			
4/12/1988	19.35	17.33			
2/24/1988	17.76	18.92			
11/30/1987	18.33	18.35			
10/2/1987	17.16	19.52			
7/24/1986	11.21	25.47			
5/13/1986	9.83	26.85			
4/21/1986	10.50	26.18			
1/15/1986	7.20	31.61			
		36.11			
		36.57			
		36.67			
		36.68			

**Historical Water-Level Elevation Measurements  
Former TRW Microwave Facility  
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<b>Well Number</b>	<b>Zone</b>	<b>Top of Casing Elevation (feet, MSL)</b>	<b>Date Measured</b>	<b>Depth to Water (feet below top of casing)</b>	<b>Water-Level Elevation (feet, MSL)</b>
T-10C	B2	39.05	10/9/2017	8.12	30.93
			10/10/2016	9.27	29.78
			10/12/2015	10.57	28.48
		10/13/2014	10.16	29.6	
		10/14/2013	11.03	28.73	
		10/8/2012	10.45	29.31	
		10/10/2011	9.92	29.84	
		10/11/2010	11.69	28.07	
		10/12/2009	12.62	27.14	
		10/13/2008	14.53	25.23	
		39.76	10/8/2007	6.91	32.85
			10/16/2006	7.44	29.62
			10/10/2005	8.29	28.77
			10/4/2004	13.24	23.82
			10/9/2003	14.03	23.03
			10/14/2002	15.15	21.91
			10/1/2001	16.35	20.71
			10/2/2000	21.20	15.86
			10/4/1999	13.59	23.47
			4/5/1999	22.70	14.36
			10/5/1998	17.39	19.67
			4/1/1998	15.66	21.40
			37.06	10/1/1997	19.91
		4/1/1997		20.63	17.03
		37.66	10/1/1996	25.72	11.78
			7/10/1996	24.2	13.30
		10/9/1995	19.80	17.70	
		7/5/1995	24.49	13.01	
		4/5/1995	21.76	15.74	
		1/10/1995	25.02	12.48	
		10/5/1994	21.24	16.26	
		7/6/1994	26.20	11.30	
		4/4/1994	27.26	10.24	
		1/11/1994	28.65	8.85	
		10/15/1993	26.97	10.53	
		7/6/1993	27.00	10.50	
		4/5/1993	25.46	12.04	
		1/5/1993	23.85	13.65	
		10/5/1992	20.87	16.63	
		7/6/1992	24.26	13.24	
		4/6/1992	24.30	13.20	
		1/6/1992	26.42	11.08	
		10/7/1991	27.91	9.59	
		7/12/1991	26.24	11.26	
		4/9/1991	25.66	11.84	
		1/8/1991	25.88	11.62	
		11/13/1990	26.41	11.09	
8/3/1990	25.22	12.28			
4/6/1990	24.89	12.61			
1/8/1990	23.84	13.66			
10/10/1989	23.23	14.27			
9/14/1989	24.12	13.38			
4/3/1989	23.73	13.77			
37.50	1/10/1989	23.02	14.48		
	10/25/1988	22.05	15.46		
	7/26/1988	20.12	17.39		
	4/12/1988	20.65	16.86		
	2/24/1988	18.77	18.74		
	11/30/1987	19.36	18.15		
	10/2/1987	18.55	18.96		
	37.51	7/24/1986	11.73	28.03	

**Historical Water-Level Elevation Measurements  
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<b>Well Number</b>	<b>Zone</b>	<b>Top of Casing Elevation (feet, MSL)</b>	<b>Date Measured</b>	<b>Depth to Water (feet below top of casing)</b>	<b>Water-Level Elevation (feet, MSL)</b>
T-11C	B2	38.65	10/9/2017	6.61	32.04
			10/10/2016	7.78	30.87
			10/12/2015	9.07	29.58
			10/13/2014	8.03	30.62
			10/14/2013	8.45	30.20
			10/8/2012	8.25	30.40
			10/10/2011	7.95	30.70
			10/11/2010	9.31	29.34
			10/12/2009	9.41	29.24
			10/13/2008	10.83	27.82
			10/8/2007	6.34	32.31
			10/16/2006	6.77	29.18
			10/10/2005	7.49	28.46
		10/4/2004	10.30	25.65	
		10/9/2003	11.18	24.77	
		10/14/2002	12.87	23.08	
		10/1/2001	14.33	21.62	
		10/2/2000	16.96	18.99	
		10/4/1999	12.94	23.01	
		4/5/1999	17.92	18.03	
		10/5/1998	14.34	21.61	
		4/1/1998	13.18	22.77	
		10/1/1997	16.81	19.14	
		4/1/1997	17.55	18.94	
		10/1/1996	21.46	15.14	
		7/10/1996	19.95	16.65	
		10/9/1995	17.92	18.68	
		7/5/1995	19.72	16.88	
		4/5/1995	17.12	19.48	
		1/10/1995	19.86	16.74	
		10/5/1994	18.58	18.02	
		7/6/1994	21.60	15.00	
		4/4/1994	22.44	14.16	
		1/11/1994	23.86	12.74	
		10/15/1993	22.23	14.37	
		7/6/1993	22.15	14.45	
		4/5/1993	20.82	15.78	
		1/5/1993	22.33	14.27	
		10/5/1992	18.66	17.94	
		7/6/1992	NM	NA	
		4/6/1992	20.38	16.22	
		1/6/1992	22.71	13.89	
		10/7/1991	24.19	12.41	
		7/12/1991	22.91	13.69	
		4/9/1991	22.30	14.30	
		1/8/1991	22.84	13.76	
		11/13/1990	22.30	14.30	
8/3/1990	23.03	13.57			
4/6/1990	NM	NA			
1/8/1990	22.28	14.32			
10/10/1989	21.82	14.78			
9/14/1989	22.62	13.98			
4/3/1989	21.74	14.86			
1/10/1989	20.83	15.77			
10/25/1988	19.78	16.82			
7/26/1988	18.64	17.96			
4/12/1988	19.12	17.48			
2/24/1988	17.78	18.82			
11/30/1987	18.28	18.32			
10/2/1987	17.28	19.32			
7/24/1986	10.89	27.76			
		36.60			

**Historical Water-Level Elevation Measurements  
Former TRW Microwave Facility  
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<b>Well Number</b>	<b>Zone</b>	<b>Top of Casing Elevation (feet, MSL)</b>	<b>Date Measured</b>	<b>Depth to Water (feet below top of casing)</b>	<b>Water-Level Elevation (feet, MSL)</b>	
T-12C	B2	40.74	10/9/2017	5.99	34.75	
			10/10/2016	7.31	33.43	
			10/12/2015	8.57	32.17	
			10/13/2014	7.54	33.2	
			10/14/2013	7.68	33.06	
			10/8/2012	7.43	33.31	
			10/10/2011	7.16	33.58	
			10/11/2010	8.36	32.38	
			10/12/2009	8.83	31.91	
			10/13/2008	9.7	31.04	
		40.74	10/8/2007	5.91	34.83	
			10/16/2006	6.24	31.80	
			10/10/2005	6.92	31.12	
			10/4/2004	9.42	28.62	
			10/9/2003	10.11	27.93	
			10/14/2002	12.39	25.65	
			10/1/2001	14.35	23.69	
			10/2/2000	16.23	21.81	
			10/4/1999	13.77	24.27	
			4/5/1999	17.66	20.38	
		38.04	10/5/1998	14.12	23.92	
			4/1/1998	13.45	24.59	
			10/1/1997	16.84	21.20	
			38.56	4/1/1997	17.60	20.96
				10/1/1996	21.61	17.01
			7/10/1996	19.9	18.72	
			10/9/1995	18.00	20.62	
			7/5/1995	19.81	18.81	
			4/5/1995	16.14	22.48	
			1/10/1995	20.17	18.45	
		10/5/1994	18.91	19.71		
		7/6/1994	21.71	16.91		
		38.62	4/4/1994	22.63	15.99	
			1/11/1994	24.12	14.50	
			10/15/1993	22.40	16.22	
			7/6/1993	22.08	16.54	
			4/5/1993	21.41	17.21	
			1/5/1993	22.46	16.16	
			10/5/1992	20.15	18.47	
			7/6/1992	21.69	16.93	
4/6/1992	21.11		17.51			
1/6/1992	23.65		14.97			
10/7/1991	25.31	13.31				
7/12/1991	24.12	14.50				
4/9/1991	23.82	14.80				
1/8/1991	23.97	14.65				
11/13/1990	23.47	15.15				
8/3/1990	24.23	14.39				
4/6/1990	24.48	14.14				
1/8/1990	23.48	15.14				
9/14/1989	24.42	16.32				

**Historical Water-Level Elevation Measurements  
Former TRW Microwave Facility  
825 Stewart Drive, Sunnyvale, California**

Well Number	Zone	Top of Casing Elevation (feet, MSL)	Date Measured	Depth to Water (feet below top of casing)	Water-Level Elevation (feet, MSL)
36DD	B2	41.58	10/9/2017	5.22	36.36
			10/10/2016	6.51	35.07
			10/12/2015	7.11	34.47
			10/13/2014	6.2	35.38
			10/14/2013	6.05	35.53
			10/8/2012	5.91	35.67
			10/10/2011	5.72	35.86
			10/11/2010	6.55	35.03
			10/12/2009	6.85	34.73
			10/13/2008	6.76	34.82
		41.58	10/8/2007	5.45	36.13
			10/16/2006	5.76	32.98
			10/10/2005	5.92	32.82
			10/4/2004	7.07	31.67
			10/9/2003	7.03	31.71
			10/14/2002	8.64	30.10
			10/1/2001	8.91	29.83
			10/2/2000	9.40	29.34
			10/4/1999	8.75	29.99
			4/5/1999	8.72	30.02
		38.74	10/5/1998	8.75	29.99
			4/1/1998	7.87	30.87
			Oct-97+	9.62	29.12
			4/1/1997	8.89	30.31
			10/1/1996	10.56	28.64
			7/10/1996	10.19	29.01
			10/9/1995	9.52	29.68
			7/5/1995	10.08	29.12
			4/5/1995	8.46	30.74
			1/10/1995	8.69	30.51
		39.20	10/5/1994	10.75	28.45
			7/6/1994	12.80	26.40
			4/4/1994	12.58	26.62
			1/11/1994	12.83	26.37
			10/15/1993	12.46	26.74
			7/6/1993	11.47	27.73
			4/5/1993	10.88	28.32
			1/5/1993	13.19	26.01
			10/5/1992	12.50	26.70
			7/6/1992	13.40	25.80
		39.20	4/6/1992	10.95	28.25
			1/6/1992	15.03	24.17
			10/7/1991	15.80	23.40
			7/12/1991	15.59	23.61
			4/9/1991	14.69	24.51
			1/8/1991	16.12	23.08
			10/9/1990	14.46	24.74
			8/3/1990	14.30	24.90
			4/6/1990	14.75	24.45
			1/8/1990	14.06	25.14
		39.20	10/10/1989	13.25	25.95
			8/23/1989	14.14	25.06
4/3/1989	13.18		26.02		
1/10/1989	12.82		26.38		
10/25/1988	12.36		27.01		
7/26/1988	11.79		27.58		
4/12/1988	11.52		27.85		
2/24/1988	10.94		28.43		
11/30/1987	11.08		28.29		
10/2/1987	10.21		29.16		
39.20	7/24/1986	8.23	31.14		
	5/13/1986	8.11	31.26		
	4/23/1986	NM	NA		
	4/22/1986	NM	NA		
	4/21/1986	8.10	31.27		
	3/17/1986	NM	NA		
	3/14/1986	6.56	32.81		
	3/12/1986	6.53	32.84		

**Historical Water-Level Elevation Measurements  
Former TRW Microwave Facility  
825 Stewart Drive, Sunnyvale, California**

<b>Well Number</b>	<b>Zone</b>	<b>Top of Casing Elevation (feet, MSL)</b>	<b>Date Measured</b>	<b>Depth to Water (feet below top of casing)</b>	<b>Water-Level Elevation (feet, MSL)</b>
		39.37	3/10/1986	NM	NA
			1/15/1986	8.10	33.48

**Historical Water-Level Elevation Measurements  
Former TRW Microwave Facility  
825 Stewart Drive, Sunnyvale, California**

Well Number	Zone	Top of Casing Elevation (feet, MSL)	Date Measured	Depth to Water (feet below top of casing)	Water-Level Elevation (feet, MSL)
T-8D	B4	40.35	10/9/2017	1.63	38.72
			10/10/2016	2.96	37.39
			10/12/2015	4.70	35.65
			10/13/2014	3.54	36.81
			10/14/2013	2.57	37.78
			10/8/2012	1.81	38.54
			10/10/2011	1.49	38.86
			10/11/2010	3.14	37.21
			10/12/2009	4.01	36.34
			10/13/2008	3.20	37.15
		40.35	10/8/2007	0.45	39.90
			10/16/2006	1.1	36.55
			10/10/2005	1.54	36.11
			10/4/2004	3.77	33.88
			10/9/2003	NM	NA
			10/14/2002	5.89	31.76
			10/1/2001	5.90	31.75
			10/2/2000	8.17	29.48
			10/4/1999	4.75	32.90
			4/5/1999	5.43	32.22
		37.65	10/5/1998	5.32	32.33
			4/1/1998	3.83	33.82
			10/1/1997	7.83	29.82
			4/1/1997	7.11	31.08
			10/1/1996	11.31	26.97
			7/10/1996	10.49	27.79
			10/9/1995	10.69	27.59
			7/5/1995	11.26	27.02
			4/5/1995	9.88	28.40
			1/10/1995	12.06	26.22
		38.19	10/5/1994	12.40	25.88
			7/6/1994	14.54	23.74
			4/4/1994	14.42	23.86
			1/11/1994	15.31	22.97
			10/15/1993	16.87	21.41
			7/6/1993	14.32	23.96
			4/5/1993	14.35	23.93
			1/5/1993	17.02	21.26
			10/5/1992	12.97	25.31
			7/6/1992	15.02	23.26
		38.28	4/6/1992	14.25	24.03
1/6/1992	16.94		21.34		
10/7/1991	17.83		20.45		
7/9/1991	17.15		21.13		
4/9/1991	16.07		22.21		
1/8/1991	17.53		20.75		
10/9/1990	16.78		21.50		
7/5/1990	17.97		20.31		
4/6/1990	17.85		20.43		
1/8/1990	18.57		19.71		
38.29	10/10/1989	18.26	20.02		
	9/14/1989	14.97	23.31		
	4/3/1989	18.27	20.01		
	1/10/1989	17.15	21.13		
	10/25/1988	17.18	21.11		
	7/26/1988	15.03	23.26		
	4/12/1988	14.27	24.02		
	2/24/1988	13.46	24.83		
	11/30/1987	14.48	23.81		
	10/2/1987	14.55	23.74		
38.29	7/24/1986	9.34	28.95		
	5/13/1986	8.03	30.26		
	4/23/1986	8.10	30.19		
			1/15/1986	7.50	32.85

Notes:

Wells resurveyed as needed after work that changes top of casing elevation.

Elevations in NGVD29 prior to 2007. From 2007, elevations in NAVD88.

**Historical Water-Level Elevation Measurements  
Former TRW Microwave Facility  
825 Stewart Drive, Sunnyvale, California**

Well Number	Zone	Top of Casing Elevation (feet, MSL)	Date Measured	Depth to Water (feet below top of casing)	Water-Level Elevation (feet, MSL)
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MSL Mean Sea Level

NAVD88

North American Vertical Datum 1988

NM Well not measured due to inaccessibility.

NGVD29

National Geodetic Vertical Datum 1929

NA Not Applicable

**Appendix C**  
**Historical Groundwater Analytical Results**

**Historical Groundwater Volatile Organic Compound Results**  
**Former TRW Microwave Site**  
**825 Stewart Drive, Sunnyvale, California**

Well Number/ Dates	PCE (µg/L)	TCE (µg/L)	cis- 1,2-DCE (µg/L)	trans- 1,2-DCE (µg/L)	Total 1,2-DCE (µg/L)	VC (µg/L)	1,1,1- TCA (µg/L)	1,1- DCE (µg/L)	1,1- DCA (µg/L)	CDM (µg/L)	Freon 11 (µg/L)	Freon 12 (µg/L)	Freon 113 (µg/L)	BFM (µg/L)	1,2- DCB (µg/L)	CBN (µg/L)	BEN (µg/L)	EBN (µg/L)	TOL (µg/L)	XYL (µg/L)
Drinking Water Standard	5	5	6	10	6	0.5	200	6	5	100	150	NE	1200	100	600	70	1	300	150	1750
<b>T-1A ZA</b>																				
Well T-1A was abandoned in February 2004.																				
Oct-02	<0.5	35	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<0.5	<2.0	<0.5	<0.5	NA	NA	NA	NA
Oct-01	<0.5	28	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<2.0	<2.0	<0.5	<0.5	NA	NA	NA	NA
Oct-00	<2.0	34	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	ND	ND	<2.0	ND	<2.0	<2.0	NA	NA	NA	NA
Oct-99	<1.0	34	--	--	--	<1.0	<1.0	<1.0	<1.0	ND	ND	ND	<1.0	ND	<1.0	ND	NA	NA	NA	NA
Oct-98	<1.0	42	2.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	ND	ND	ND	<1.0	ND	<1.0	ND	NA	NA	NA	NA
Oct-97	<1.0	51	--	--	--	<1.0	<1.0	<1.0	<1.0	ND	ND	ND	<1.0	ND	<2.0	ND	NA	NA	NA	NA
Oct-96	<0.5	48	3.6	<0.5	--	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Oct-95	<1.0	61	--	--	--	<2.0	<1.0	<1.0	<1.0	ND	ND	ND	<1.0	ND	<1.0	ND	NA	NA	NA	NA
Oct-94	<5.0	74	--	--	<5	<5.0	<5.0	<5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	ND	NA	NA	NA	NA
Oct-93	<5.0	120	--	--	--	<10	<5.0	<5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	ND	NA	NA	NA	NA
Apr-90	<0.5	110	--	--	--	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Oct-89	<0.5	90	--	--	--	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	<0.5		<0.5	NA	NA	NA	NA	NA
Aug-89	<0.5	87	--	--	--	<0.5	<0.5	<0.5	0.9	NA	NA	NA	<0.5		<0.5	NA	NA	NA	NA	NA
Feb-89	<0.5	86	--	--	--	<0.5	<0.5	<0.5	1.3	NA	NA	NA	<0.5		<0.5	NA	NA	NA	NA	NA
Nov-88	<0.5	88	--	--	--	<0.5	0.5	<0.5	2.7	NA	NA	NA	<0.5		<0.5	NA	NA	NA	NA	NA
Aug-88	<1.0	60	--	--	67	<1.0	0.9	<1.0	<1.0	NA	NA	NA	<1.0		<1.0	NA	NA	NA	NA	NA
Jun-88	<0.5	56	--	--	--	<0.5	1.5	<0.5	<0.5	NA	NA	NA	10		<0.5	NA	NA	NA	NA	NA
Jan-88	<1.0	200	--	--	--	<1.0	3.1	<1.0	1.5	NA	NA	NA	9.1		<1.0	NA	NA	NA	NA	NA
Oct-87	<2.5	160	--	--	--	<2.5	8.6	<2.5	<2.5	NA	NA	NA	<2.5		<2.5	NA	NA	NA	NA	NA
Jun-87	<1.0	190	--	--	--	<1.0	7.0	<1.0	<1.0	NA	NA	NA	<1.0		<1.0	NA	NA	NA	NA	NA
Apr-87	<2.5	160	--	--	--	<2.5	<2.5	<2.5	<2.5	NA	NA	NA	<2.5		<2.5	NA	NA	NA	NA	NA
Jan-87	<10	140	--	--	--	<10	<10	<10	<10	NA	NA	NA	<10		<10	NA	NA	NA	NA	NA
Sep-86	<2.0	420	--	--	--	<2.0	5	<2.0	<2.0	NA	NA	NA	<2.0		<2.0	NA	NA	NA	NA	NA
Jul-86	<1.0	140	--	--	--	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	<1.0		<1.0	NA	NA	NA	NA	NA
Apr-86	<2.0	340	--	--	--	<2.0	<2.0	<2.0	<2.0	NA	NA	NA	<2.0		<2.0	NA	NA	NA	NA	NA
Jan-86	<5.0	630	--	--	490	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA		<5.0	NA	NA	NA	NA	NA
Oct-85	10	640	--	--	--	<5.0	30	<5.0	<5.0	NA	NA	NA	<5.0		<5.0	NA	NA	NA	NA	NA
Nov-84	4	930	--	--	--	NA	5	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	NA	NA
Aug-84	5	950	--	--	360	ND	7	ND	ND	NA	NA	NA	ND		ND	NA	NA	NA	NA	NA
Mar-84	NA	680	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	NA	NA
Sep-83	7	1,000	--	--	--	NA	5	ND	<1.0	NA	NA	NA	ND		NA	NA	NA	NA	NA	NA
Sep-83	3	540	--	--	510	NA	3	ND	<1.0	NA	NA	NA	ND		NA	NA	NA	NA	NA	NA
Aug-83	<1.0	660	--	--	--	ND	4	<1.0	<1.0	NA	NA	NA	<1.0		ND	NA	NA	NA	NA	NA

**Historical Groundwater Volatile Organic Compound Results**  
**Former TRW Microwave Site**  
**825 Stewart Drive, Sunnyvale, California**

Well Number/ Dates	PCE (µg/L)	TCE (µg/L)	cis- 1,2-DCE (µg/L)	trans- 1,2-DCE (µg/L)	Total 1,2-DCE (µg/L)	VC (µg/L)	1,1,1- TCA (µg/L)	1,1- DCE (µg/L)	1,1- DCA (µg/L)	CDM (µg/L)	Freon 11 (µg/L)	Freon 12 (µg/L)	Freon 113 (µg/L)	BFM (µg/L)	1,2- DCB (µg/L)	CBN (µg/L)	BEN (µg/L)	EBN (µg/L)	TOL (µg/L)	XYL (µg/L)
Drinking Water Standard	5	5	6	10	6	0.5	200	6	5	100	150	NE	1200	100	600	70	1	300	150	1750
<b>T-2A ZA</b>																				
Per United States Environmental Protection Agency approval, well T-2A was abandoned in November 2014.																				
Sep-14	<5.0	<5.0	190	50	--	590	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	19	150	NA	NA	NA	NA
Apr-14	<5.0	<5.0	850	57	--	670	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	20	120	<5.0	<5.0	<5.0	<10
Apr-14 Dup	<5.0	<5.0	680	51	--	540	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	17	110	<5.0	<5.0	<5.0	<10
Oct-13	<0.50	0.76	340	86	--	430	<0.50	<0.50	<0.50		<1.0	<0.50	<0.50	<1.0	19	85	NA	NA	NA	NA
May-13	<0.50	0.53	130	35	--	68	<0.50	<0.50	<0.50		<1.0	<0.50	<0.50	<1.0	5.8	43	<0.50	<0.50	<0.50	<1.0
May-13 Dup	<0.50	0.59	160	35	--	81	<0.50	<0.50	<0.50		<1.0	<0.50	<0.50	<1.0	6.6	47	<0.50	<0.50	<0.50	<1.0
Oct-12	<0.50	<0.50	120	48	--	67	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	8.9	78	<0.50	1.9	0.53	2.6
Apr-12	<0.50	0.84	34	16	--	27	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	6.1	47	<0.50	1.1	0.57	1.8
Oct-11	<0.50	<0.50	12	6	--	11	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	3.4	74	<0.50	1.7	0.94	5.3
May-11	<0.50	0.52	3	2.3	--	5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	2.7	39	<0.50	<0.50	<0.50	<0.50
Mar-11	<0.50	0.68	7	2.5	--	31	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	3.2	57	<0.50	1.7	<0.50	4.8
Nov-10	<50	<50	3,200	<50	--	2,700	<50	<50	<50	<50	<100	<50	<50	<100	57	120	NA	NA	NA	NA
Oct-10	<20	<20	8,700	75	--	5,400	<20	<20	<20	<20	<40	<20	<20	<40	23	140	<20	<20	<20	<40
Oct-09	<20	<20	--	--	--	1,100	<20	<20	<20	<20	<40	<20	<20	<40	<20	46	<20	<20	<20	<40
Oct-08	<1	2.4	--	--	--	52	<1	<1	<1	<1	<2	<1	<1	<2	9.4	31	<1	<1	<1	<2
Oct-07	<5.0	<5.0	650	280	--	200	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	48	<5.0	<5.0	<5.0	<15
Apr-07	<5.0	25	180	<5.0	--	65	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Oct-06	<5.0	<5.0	580	270	--	140	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	41	<5.0	<5.0	<5.0	<15
Apr-06	<5.0	<5.0	170	110	--	35	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	14	<5.0	<5.0	<5.0	<15
Jan-06	<5.0	<5.0	220	190	--	120	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	39	<5.0	<5.0	<5.0	<15
Oct-05	<5.0	<5.0	45	49	--	22	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	18	<5.0	<5.0	<5.0	<15
Jul-05	<5.0	<5.0	110	96	--	50	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	60	<5.0	<5.0	<5.0	<15
Apr-05	<5.0	9.4	13	9.0	--	23	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	13	<5.0	<5.0	<5.0	<15
Jan-05	<5.0	<5.0	150	100	--	49	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	30	<5.0	<5.0	<5.0	<15
Oct-04	<5.0	<5.0	200	69	--	100	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	46	<5.0	<5.0	<5.0	<15
Apr-04	<1.0	4.4	59	<1.0	--	30	<1.0	<1.0	<1.0	NA	<1.0	<1.0	NA	<1.0	NA	<1.0	<1.0	<1.0	<1.0	<1.0
Jan-04	<5.0	<5.0	<5.0	<5.0	--	9.7	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<5.0
Oct-03	<5.0	6.3	66	<5.0	--	130	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	24	<5.0	<5.0	<5.0	<10
Jul-03	<1.0	2.5	17	<1.0	--	48	<1.0	<1.0	<1.0	NA	<2.0	<2.0	NA	<1.0	NA	14	NA	19	<1.0	3.8
Apr-03	<1.0	15	7.3	<1.0	--	13	<1.0	<1.0	<1.0	NA	<2.0	<2.0	NA	<1.0	NA	6.6	NA	<1.0	<1.0	<2.0
Jan-03	<1.0	16	12	1.1	--	24	<1.0	<1.0	<1.0	NA	<2.0	<2.0	NA	<1.0	NA	16	NA	NA	NA	NA
Oct-02	1.2	28	31	2	--	37	<1.0	<1.0	<1.0	NA	<2.0	<2.0	NA	<1.0	NA	28	<1.0	<1.0	<1.0	3.9
Jul-02	<1.0	32	94	6.7	--	140	<1.0	<1.0	<1.0	NA	<2.0	<2.0	NA	NA	NA	7.1	NA	<1.0	<1.0	<2.0
Apr-02	<1.0	4.2	45	<1.0	--	76	<1.0	<1.0	<1.0	NA	<2.0	<2.0	NA	ND	NA	76	NA	<1.0	<1.0	<2.0
Jan-02	<13	110	210	<13	--	240	<13	<13	<13	ND	<25	<13	NA	ND	20	<13	NA	NA	NA	NA
Nov-01	10	140	180	6.7	--	460	<5.0	<5.0	<5.0	ND	<5.0	<5.0	<5.0	<5.0	ND	<5.0	<5.0	<5.0	<5.0	<10
Oct-01	<50	480	230	<50	--	310	<50	<50	<50	<50	<100	<100	<100	<50	NA	<50	NA	<50	<50	<100
Aug-01	19	88	400	8.6	--	690	<1.0	<1.0	1.1	ND	<2.0	<2.0	NA	ND	NA	2.9	NA	1.8	<1.0	5.4
Jun-01	1.1	5.4	57	5.2	--	620	<1.0	1.2	1.9	ND	4.0	<2.0	NA	ND	NA	<1.0	NA	<1.0	<1.0	<2.0
Mar-01	13	110	360	5.3	--	400	1.6	1.2	<1.0	ND	<2.0	<2.0	NA	ND	NA	<1.0	NA	<1.0	<1.0	<2.0
Jan-01	11	120	330	4.2	--	86	2.3	1.3	<1.0	ND	<2.0	<2.0	NA	ND	NA	<1.0	NA	<1.0	<1.0	<2.0
Oct-00	<20	160	520	<20	--	330	<20	<20	<20	<20	ND	ND	<20	ND	<20	<20	NA	NA	NA	NA
Oct-99	27	270	220	<5.0	--	<5.0	<5.0	<5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	<10	NA	NA	NA	NA
Apr-99	20	210	160	<10	--	<10	<10	<10	<10	ND	ND	ND	<10	ND	<10	<25	NA	NA	NA	NA
Oct-98	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Apr-98	20	440	150	<10	--	<10	<10	<10	<10	ND	ND	ND	<40	ND	<10	<25	NA	NA	NA	NA
Oct-97	71	470	320	<25	--	<25	<25	<25	<25	ND	ND	ND	<25	ND	<50	<50	NA	NA	NA	NA
Apr-97	37	330	250	4.4	--	3.1	<1.7	2.1	<1.7	ND	ND	ND	1.8	ND	<1.7	ND	NA	NA	NA	NA
Oct-96	3.3	71	97	1.0	--	9.5	<0.5	0.6	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Oct-95	14	190	--	--	140	13	<2.0	<2.0	<2.0	ND	ND	ND	<2.0	ND	<2.0	ND	NA	NA	NA	NA
Apr-95	18	280	--	--	300	<10	<5.0	<5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	ND	NA	NA	NA	NA
Oct-94	<25	320	--	--	530	<25	<25	<25	<25	ND	ND	ND	<25	ND	<25	ND	NA	NA	NA	NA
Apr-94	3.9	1,600	--	--	2,216	120	<0.5	21	<0.5	ND	ND	ND	<0.5	ND	2.2	ND	NA	NA	NA	NA
Feb-94	6.3	1,900	--	--	2,723	260	<0.5	32	1.1	ND	ND	ND	1.9	ND	9.6	ND	NA	NA	NA	NA
Oct-93	16	5,800	--	--	4,732	300	<5.0	49	<5.0	ND	ND	ND	<5.0	ND	23	ND	NA	NA	NA	NA
Apr-93	18	1,300	--	--	1,710	14	<0.5	13	<0.5	ND	ND	ND	NA	ND	<0.5	ND	NA	NA	NA	NA
Oct-92	10	640	--	--	650	80	<0.5	<0.5	<0.5	ND	ND	ND	NA	ND	2.1	ND	NA	NA	NA	NA
Apr-92	30	4,400	--	--	410	120	<20	<20	<20	ND	ND	ND	<20	ND	<20	ND				



**Historical Groundwater Volatile Organic Compound Results**  
**Former TRW Microwave Site**  
**825 Stewart Drive, Sunnyvale, California**

Well Number/ Dates	PCE (µg/L)	TCE (µg/L)	cis- 1,2-DCE (µg/L)	trans- 1,2-DCE (µg/L)	Total 1,2-DCE (µg/L)	VC (µg/L)	1,1,1- TCA (µg/L)	1,1- DCE (µg/L)	1,1- DCA (µg/L)	CDM (µg/L)	Freon 11 (µg/L)	Freon 12 (µg/L)	Freon 113 (µg/L)	BFM (µg/L)	1,2- DCB (µg/L)	CBN (µg/L)	BEN (µg/L)	EBN (µg/L)	TOL (µg/L)	XYL (µg/L)
Drinking Water Standard	5	5	6	10	6	0.5	200	6	5	100	150	NE	1200	100	600	70	1	300	150	1750
<b>T-7A ZA</b>																				
Oct-17 Dup	<2.5	160	82	<2.5	--	<2.5	<2.5	<2.5	<2.5	--	<5.0	<2.5	<2.5	<5.0	<2.5	<2.5	NA	NA	NA	NA
Oct-17	<2.5	160	84	<2.5	--	<2.5	<2.5	<2.5	<2.5	--	<5.0	<2.5	<2.5	<5.0	<2.5	<2.5	NA	NA	NA	NA
Oct-16	<2.5	190	80	<2.5	--	<2.5	<2.5	<2.5	<2.5	<2.5	<5.0	<2.5	<2.5	<5.0	<2.5	<2.5	NA	NA	NA	NA
Oct-16 Dup	<2.5	170	100	<2.5	--	<2.5	<2.5	<2.5	<2.5	<2.5	<5.0	<2.5	<2.5	<5.0	<2.5	<2.5	NA	NA	NA	NA
May-16	<2.5	140	81	<2.5	--	<2.5	<2.5	<2.5	<2.5	NA	<5.0	<2.5	<2.5	<5.0	<2.5	<2.5	NA	NA	NA	NA
Oct-15	<2.5	170	79	<2.5	--	<2.5	<2.5	<2.5	<2.5	<2.5	<5.0	<2.5	<2.5	<5.0	<2.5	<2.5	NA	NA	NA	NA
Oct-15 Dup	<5.0	190	90	<5.0	--	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<5.0	NA	NA	NA	NA
Jun-15	1	220	83	2	--	<0.50	<0.50	1	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	NA	NA	NA	NA
Oct-14	<2.5	230	75	<2.5	--	<2.5	<2.5	<2.5	<2.5	<2.5	<5.0	<2.5	<2.5	<5.0	<2.5	<2.5	NA	NA	NA	NA
Oct-14 Dup	<2.5	170	64	<2.5	--	<2.5	<2.5	<2.5	<2.5	<2.5	<5.0	<2.5	<2.5	<5.0	<2.5	<2.5	NA	NA	NA	NA
Oct-13	1.6 J	240	77	1.7 J	--	<2.5	<2.5	<2.5	<2.5		<5.0	<2.5	<2.5	<5.0	<2.5	<2.5	NA	NA	NA	NA
Oct-13 Dup	1.7 J	250	81	1.8 J	--	<2.5	<2.5	<2.5	<2.5		<5.0	<2.5	<2.5	<5.0	<2.5	<2.5	NA	NA	NA	NA
Oct-12	<2.5	56/63	230	<2.5	--	<2.5	<2.5	<2.5	<2.5	<2.5	<5.0	<2.5	<2.5	<5.0	<2.5	<2.5	<2.5	<2.5	<2.5	<5.0
Oct-11 Dup	<2.5	140	170	<2.5	--	<2.5	<2.5	<2.5	<2.5	<2.5	<5.0	<2.5	<2.5	<5.0	<2.5	<2.5	<2.5	<2.5	<2.5	<5.0
Oct-11	0.67	140	180	2.1	--	1.8	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-10 Dup	<5.0	190	51	<5.0	--	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<10
Oct-10	<5.0	220	56	<5.0	--	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<10
Oct-09 Dup	1.6	180	54	1.9	--	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-09	1.6	180	52	2.4	--	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-08 Dup	<4	330	75	<4	--	<4	<4	<4	<4	<4	<8	<4	<4	<8	<4	<4	<4	<4	<4	<8
Oct-08	<4	370	79	4.2	--	<4	<4	<4	<4	<4	<8	<4	<4	<8	<4	<4	<4	<4	<4	<8
Oct-07	<5.0	370	80	<5.0	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Oct-07 Dup	<5.0	380	81	<5.0	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
May-07	<5.0	290	100	<5.0	--	NA	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	5.4	<5.0	<5.0	<5.0	<15
Jan-07	NA	430	120	<5.0	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Oct-06	<4.0	330	85	<4.0	--	<4.0	<4.0	<4.0	<4.0	<4.0	<8.0	<4.0	<4.0	<8.0	<4.0	<4.0	NA	NA	NA	NA
Oct-06 Dup	<2.0	320	76	<2.0	--	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	<4.0	<2.0	<2.0	NA	NA	NA	NA
Jul-06	<5.0	450	140	<5.0	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Apr-06	<5.0	360	180	9.9	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Oct-05	<2.0	340	130	3.3	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	<2.0	<2.0	NA	NA	NA	NA
Oct-04	<2.0	370	110	4.6	--	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0	<4.0	<2.0	<8.0	<2.0	<2.0	NA	NA	NA	NA
Apr-04	2.0	340	170	4.4	--	<1.0	<1.0	<1.0	<1.0	NA	<1.0	<1.0	NA	<1.0	NA	<1.0	<1.0	<1.0	<1.0	<2.0
Oct-03 (1)	<5.0	480	268	8.7	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<10
Apr-03	<1.0	430	210	2.6	--	<1.0	<1.0	<1.0	<1.0	NA	<2.0	<2.0	NA	<1.0	NA	<1.0	NA	<1.0	<1.0	<2.0
Oct-02	<5.0	510	190	<5.0	--	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<10	<5.0	<20	<5.0	<5.0	NA	NA	NA	NA
Apr-02	<10	350	160	<10	--	<10	<10	<10	<10	ND	<20	<10	<10	ND	<10	<10	NA	NA	NA	NA
Jan-02	<10	290	120	<10	--	<10	<10	<10	<10	ND	<20	<10	<10	ND	<10	<10	NA	NA	NA	NA
Oct-01	<5.0	260	71	<5.0	--	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	NA	NA	NA	NA
Jun-01	1.6	220	76	1.4	--	<2.0	<1.0	<1.0	<1.0	NA	<2.0	<2.0	NA	ND	NA	<1.0	NA	<1.0	1.2	<2.0
Oct-00	<10	120	87	<10	--	<10	<10	<10	<10	<10	ND	ND	<10	ND	<10	<10	NA	NA	NA	NA
Oct-99	<2.0	130	21	<2.0	--	<2.0	<2.0	<2.0	<2.0	ND	ND	ND	<2.0	ND	<2.0	<2.0	NA	NA	NA	NA
Oct-99 Dup	<2.0	140	20	<2.0	--	<2.0	<2.0	<2.0	<2.0	ND	ND	ND	<2.0	ND	<2.0	ND	NA	NA	NA	NA
Oct-98	<5.0	200	18	<5.0	--	<5.0	<5.0	<5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	<25	NA	NA	NA	NA
Oct-97	<10	270	33	<10	--	<10	<10	<10	<10	ND	ND	ND	<10	ND	<20	<50	NA	NA	NA	NA
Oct-96	1.8	260	32	<1.0	--	<1.0	<1.0	<1.0	<1.0	ND	ND	ND	1.5	ND	<1.0	ND	NA	NA	NA	NA
Oct-95	<5.0	400	--	--	47	<10	<5.0	<5.0	<5.0	ND	ND	ND	5.9	ND	<5.0	ND	NA	NA	NA	NA
Nov-94	<25	410	--	--	100	<25	<25	<25	<25	ND	ND	ND	<25	ND	<25	ND	NA	NA	NA	NA
Oct-94	450	1,700	--	--	3,300	<250	<250	<250	<250	ND	ND	ND	<250	ND	<250	ND	NA	NA	NA	NA
Oct-93	<5.0	480	--	--	90	<10	<5.0	<5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	ND	NA	NA	NA	NA
Oct-92	2.4	670	--	--	222	<1.0	2	<0.5	1	ND	ND	ND	NA	ND	<0.5	ND	NA	NA	NA	NA
Apr-92	5.0	980	--	--	425	<0.5	3	1	2	ND	ND	ND	1	ND	<0.5	ND	NA	NA	NA	NA
Jan-92	<10	1,200	--	--	980	<10	<10	<10	<10	ND	ND	ND	<10	ND	<10	ND	NA	NA	NA	NA
Jul-91	10	720	--	--	720	<5.0	<5.0	<5.0	<5.0	ND	ND	ND	14	ND	<5.0	ND	NA	NA	NA	NA
Apr-91	<5.0	720	--	--	640	<5.0	<5.0	<5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	ND	NA	NA	NA	NA
Oct-90	<5.0	820	--	--	870	<5.0	<5.0	<5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	ND	NA	NA	NA	NA
Jul-90	<20	810	--	--	20	<20	<20	<20	<20	ND	ND	ND	<20	ND	<20	ND	NA	NA	NA	NA
Apr-90	<10	1,300	--	--	760	<10	<10	<10	<10	ND	ND	ND	<10	ND	<10	ND	NA	NA	NA	NA
Jan-																				

**Historical Groundwater Volatile Organic Compound Results**  
**Former TRW Microwave Site**  
**825 Stewart Drive, Sunnyvale, California**

Well Number/ Dates	PCE (µg/L)	TCE (µg/L)	cis- 1,2-DCE (µg/L)	trans- 1,2-DCE (µg/L)	Total 1,2-DCE (µg/L)	VC (µg/L)	1,1,1- TCA (µg/L)	1,1- DCE (µg/L)	1,1- DCA (µg/L)	CDM (µg/L)	Freon 11 (µg/L)	Freon 12 (µg/L)	Freon 113 (µg/L)	BFM (µg/L)	1,2- DCB (µg/L)	CBN (µg/L)	BEN (µg/L)	EBN (µg/L)	TOL (µg/L)	XYL (µg/L)
Drinking Water Standard	5	5	6	10	6	0.5	200	6	5	100	150	NE	1200	100	600	70	1	300	150	1750
<b>T-8A ZA</b>																				
Oct-17	0.6	45	110	1.7	--	6.0	<0.50	0.54	<0.50	--	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	--	--	--	--
Oct-16	0.58	56	90	1.8	--	2.4	<0.50	0.6	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0 *F1	<0.50	<0.50	NA	NA	NA	NA
May-16	<0.50	19	110	1.6	--	3.1	<0.50	<0.50	<0.50	NA	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	NA	NA	NA	NA
Oct-15	0.82	62	100	1.7	--	2.5	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	NA	NA	NA	NA
Jun-15	0.66	67	81	1.8	--	5.4	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	NA	NA	NA	NA
Oct-14	1.7	110	56	2.6	--	<0.50	<0.50	0.55	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	NA	NA	NA	NA
Apr-14	<2.5	130	63	2.8	--	<2.5	<2.5	<2.5	<2.5	<2.5	<5.0	<2.5	<2.5	<5.0	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
Oct-13	2.0	110	57	3.6	--	0.91	0.25 J	0.69	0.46 J		<1.0	<0.50	0.56	<1.0	<0.50	<0.50	NA	NA	NA	NA
May-13	1.5	110	58	2.8	--	0.71	<0.50	0.50	<0.50		<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Oct-12	<2.5	160	82	<2.5	--	<2.5	<2.5	<2.5	<2.5	<2.5	<5.0	<2.5	<2.5	<5.0	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
Apr-12	1.1	110	67	1.1	--	0.88	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Oct-11	1.6	140	69	2.1	--	1.3	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Oct-10	0.99	87	65	2.8	--	4.6	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Apr-10	<0.50	43	26	2.1	--	3.7	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Oct-09	0.54	36	33	3.2	--	21	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Feb-09	<0.50	21	23	1.4	--	9.2	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	NA	NA	NA	NA
Oct-08	0.76	84	28	1.1	--	4.9	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Oct-07	<5.0	59	71	<5.0	--	36.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Apr-07	<5.0	170	63	<5.0	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jan-07	8.2	180	81	<5.0	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Oct-06	<5.0	57	34	<5.0	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jul-06	<5.0	210	94	<5.0	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Apr-06	<5.0	86	83	<5.0	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jan-06	<5.0	63	44	<5.0	--	5.8	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Oct-05	<5.0	200	130	<5.0	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jul-05	<5.0	170	58	<5.0	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Apr-05	<5.0	140	44	<5.0	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Oct-04	2.8	130	39	2.3	--	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<1.0	<4.0	<1.0	<1.0	NA	NA	NA	NA
Jul-04	<5.0	150	50	<5.0	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<10
Apr-04	3.2	120	45	2.5	--	<1.0	<1.0	<1.0	<1.0	NA	<1.0	<1.0	NA	<1.0	NA	<1.0	<1.0	<1.0	<1.0	<2.0
Jan-04	<5.0	110	33	<5.0	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<10
Oct-03	<5.0	140	48	<5.0	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<10
Jul-03	2.0	150	41	1.2	--	<2.0	<1.0	<1.0	<1.0	NA	<2.0	<2.0	NA	<1.0	NA	<1.0	NA	<1.0	<1.0	<2.0
Mar-03	1.9	150	45	<1.0	--	<2.0	<1.0	<1.0	<1.0	NA	<2.0	<2.0	NA	<1.0	NA	<1.0	NA	<1.0	<1.0	<2.0
Jan-03	3.3	140	49	1.2	--	<2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<1.0	NA	<1.0	NA	NA	NA	NA
Oct-02	2.4	130	54	1.4	--	14	1.2	2.8	<1.0	NA	<2.0	<2.0	NA	<1.0	NA	<1.0	1.3	<1.0	1.2	<2.0
Jul-02	<1.0	120	44	<1.0	--	<2.0	<1.0	<1.0	<1.0	NA	<2.0	<2.0	NA	ND	NA	<1.0	NA	<1.0	<1.0	<2.0
Mar-02	2.4	140	41	1.3	--	<2.0	<1.0	<1.0	<1.0	NA	<2.0	<2.0	NA	ND	NA	<1.0	NA	<1.0	<1.0	<2.0
Jan-02	2.0	170	62	1.5	--	<2.0	<1.0	<1.0	<1.0	NA	<2.0	<2.0	NA	ND	NA	<1.0	NA	<1.0	6.8	2.7
Nov-01	<5.0	140	62	<5.0	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	ND	NA	<5.0	NA	<5.0	<5.0	<10
Oct-01	2.8	190	68	1.4	--	<2.0	1.5	<1.0	<1.0	NA	<2.0	<2.0	NA	<1.0	NA	<1.0	NA	<1.0	<1.0	<2.0
Aug-01	5.9	180	72	1.4	--	<2.0	<1.0	<1.0	<1.0	NA	<2.0	<2.0	NA	ND	NA	<1.0	NA	<1.0	<1.0	<2.0
Jun-01	2.6	150	64	1.4	--	<2.0	1.6	<1.0	<1.0	NA	<2.0	<2.0	NA	ND	NA	<1.0	NA	<1.0	2.2	<2.0
Oct-00	<10	150	64	<10	--	<10	<10	<10	<10	<10	ND	ND	<10	ND	<10	<10	NA	NA	NA	NA
Oct-00 Dup	<10	140	62	<10	--	<10	<10	<10	<10	<10	ND	ND	<10	ND	<10	<10	NA	NA	NA	NA
Oct-99	2.6	130	77	<2.0	--	<2.0	<2.0	<2.0	<2.0	ND	ND	ND	<2.0	ND	<2.0	<2.0	NA	NA	NA	NA
Apr-99	<10	110	72	<10	--	<10	<10	<10	<10	ND	ND	ND	<10	ND	<10	<10	NA	NA	NA	NA
Oct-98	3.0	110	120	<2.0	--	<2.0	<2.0	<2.0	<2.0	ND	ND	ND	<2.0	ND	<2.0	<2.0	NA	NA	NA	NA
Apr-98	<5.0	170	110	<5.0	--	<5.0	<5.0	<5.0	<5.0	ND	ND	ND	<20	ND	<5.0	<5.0	NA	NA	NA	NA
Oct-97	<10	210	170	<10	--	<10	<10	<10	<10	ND	ND	ND	<10	ND	<20	<10	NA	NA	NA	NA
Apr-97	3.8	200	160	12	--	<1.0	2.9	<1.0	1.3	ND	ND	ND	2.7	ND	2.2	ND	NA	NA	NA	NA
Oct-96	2.4	160	160	3.7	--	<0.5	2.3	0.8	1.1	ND	ND	ND	1.5	ND	2.2	ND	NA	NA	NA	NA
Apr-96	4.0	230	--	--	180	<2.5	3	<2.5	<2.5	ND	ND	ND	<2.5	ND	<2.5	ND	NA	NA	NA	NA
Oct-95	4.4	260	--	--	222.5	<4.0	4.9	2.1	<2.0	ND	ND	ND	4	ND	<2.0	ND	NA	NA	NA	NA
Apr-95	<5.0	230	--	--	200	<10	<5.0	<5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	ND	NA	NA	NA	NA
Oct-94	<25	300	--	--	330	<25	<25	<25	<25	ND	ND	ND	<25	ND	<25	ND	NA	NA	NA	NA

**Historical Groundwater Volatile Organic Compound Results**  
**Former TRW Microwave Site**  
**825 Stewart Drive, Sunnyvale, California**

Well Number/ Dates	PCE (µg/L)	TCE (µg/L)	cis- 1,2-DCE (µg/L)	trans- 1,2-DCE (µg/L)	Total 1,2-DCE (µg/L)	VC (µg/L)	1,1,1- TCA (µg/L)	1,1- DCE (µg/L)	1,1- DCA (µg/L)	CDM (µg/L)	Freon 11 (µg/L)	Freon 12 (µg/L)	Freon 113 (µg/L)	BFM (µg/L)	1,2- DCB (µg/L)	CBN (µg/L)	BEN (µg/L)	EBN (µg/L)	TOL (µg/L)	XYL (µg/L)
Drinking Water Standard	5	5	6	10	6	0.5	200	6	5	100	150	NE	1200	100	600	70	1	300	150	1750
<b>T-9A ZA</b>																				
Oct-17	0.76	48	77	2.5	--	<0.50	<0.50	<0.50	<0.50	--	<1.0	<0.50	<0.50	<1.0	2.3	<0.50	--	--	--	--
Oct-16	1	64	78	3	--	1	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	3	<0.50	NA	NA	NA	NA
May-16	0.88	56	81	2.6	--	<0.50	<0.50	<0.50	<0.50	NA	<1.0	<0.50	<0.50	<1.0	2.6	<0.50	NA	NA	NA	NA
Oct-15	1	69	66	3	--	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	3	<0.50	NA	NA	NA	NA
Oct-14	1.2	70	91	3.4	--	<0.50	<0.50	0.71	0.51	<0.50	<1.0	<0.50	<0.50	<1.0	3.4	<0.50	NA	NA	NA	NA
Oct-13	0.97	67	74	2.9	--	0.81	<0.50	0.44 J	0.47 J		<1.0	<0.50	<0.50	<1.0	3.1	<0.50	NA	NA	NA	NA
Oct-12	0.9	50	82	3.3	--	0.91	<0.5	0.54	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	3	<0.5	<0.5	<0.5	<0.5	<1.0
Oct-11	1.6	73	100	2.9	--	2.2	<0.50	0.55	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	3.7	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-10	0.83	48	88	2.2	--	3.5	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	2.6	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-09	1.5	66	82	3.0	--	2.0	<0.50	0.58	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	4.0	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-08	1.3	50	98	2.7	--	1.2	<1	<1	<1	<1	<2	<1	<1	<2	3.1	<1	<1	<1	<1	<2
Oct-07	<5.0	120	130	<5.0	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
May-07	<5.0	98	92	<5.0	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jan-07	<5.0	130	120	<5.0	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Oct-06	<5.0	100	100	<5.0	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jul-06	<5.0	60	130	<5.0	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Apr-06	<5.0	47	190	8.1	--	6.8	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jan-06	<5.0	56	140	<5.0	--	21	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Oct-05	<5.0	56	170	<5.0	--	7.3	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jul-05	<5.0	140	90	<5.0	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Apr-05	<5.0	7.5	320	<5.0	--	8.2	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jan-05	<5.0	120	92	<5.0	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Oct-04	<5.0	110	74	<5.0	--	5.3	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Apr-04	2.9	85	81	2.3	--	7.2	<1.0	<1.0	<1.0	NA	<1.0	<1.0	NA	<1.0	NA	<1.0	<1.0	<1.0	<1.0	<2.0
Jan-04	<5.0	92	56	<5.0	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<10
Oct-03	<5.0	120	81	<5.0	--	24	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<10
Apr-03	1.8	120	87	1.4	--	<2.0	1.1	<1.0	<1.0	NA	<2.0	<2.0	NA	<1.0	NA	<1.0	NA	<1.0	<1.0	<2.0
Oct-02	<5.0	110	66	<5.0	--	8.1	<5.0	<5.0	<5.0	<5.0	<10	<10	<5.0	<20	<5.0	<5.0	NA	NA	NA	NA
Jul-02	<2.5	120	95	<2.5	--	7.3	<2.5	<2.5	<2.5	ND	<5.0	<2.5	<2.5	ND	<2.5	<2.5	NA	NA	NA	NA
Apr-02	3.0	130	100	<2.5	--	9.0	<2.5	<2.5	<2.5	ND	<5.0	<2.5	<2.5	ND	3.0	<2.5	NA	NA	NA	NA
Jan-02	3.0	140	110	<2.5	--	11	<2.5	<2.5	<2.5	ND	<5.0	<2.5	<2.5	ND	3.9	<2.5	NA	NA	NA	NA
Oct-01	<5.0	110	87	<5.0	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<20	<20	<5.0	<5.0	NA	NA	NA	NA
Aug-01	<5.0	120	110	<5.0	--	<5.0	<5.0	<5.0	<5.0	ND	<5.0	<5.0	<25	ND	NA	<5.0	<5.0	<5.0	<5.0	<5.0
Oct-00	<10	140	110	<10	--	<10	<10	<10	<10	<10	ND	ND	<10	ND	<10	<10	NA	NA	NA	NA
Oct-00 Dup	<10	140	110	<10	--	<10	<10	<10	<10	<10	ND	ND	<10	ND	<10	<10	NA	NA	NA	NA
Oct-99	3.5	130	100	2.2	--	<2.0	2.4	<2.0	<2.0	ND	ND	ND	<2.0	ND	<2.0	<2.0	NA	NA	NA	NA
Apr-99	<10	140	140	<10	--	<10	<10	<10	<10	ND	ND	ND	<10	ND	<10	<10	NA	NA	NA	NA
Oct-98	3.4	130	150	2.1	--	<2.0	2.6	<2.0	<2.0	ND	ND	ND	<2.0	ND	6.0	<2.0	NA	NA	NA	NA
Apr-98	<5.0	150	170	<5.0	--	<5.0	<5.0	<5.0	<5.0	ND	ND	ND	<20	ND	<5.0	<5.0	NA	NA	NA	NA
Oct-97	<10	210	290	<10	--	<10	<10	<10	<10	ND	ND	ND	<10	ND	<20	<10	NA	NA	NA	NA
Apr-97	5.0	200	250	16	--	1.4	3.9	1.9	1.7	ND	ND	ND	3.3	ND	9.8	ND	NA	NA	NA	NA
Oct-96	4.2	190	270	3.5	--	<1.0	4.4	2.7	1.7	ND	ND	ND	2.8	ND	11	ND	NA	NA	NA	NA
Apr-96	6.2	240	--	--	293	<2.5	5.3	2.7	<2.5	ND	ND	ND	<2.5	ND	12	ND	NA	NA	NA	NA
Oct-95	5.7	210	--	--	252.9	<5.0	5.4	3.2	<2.5	ND	ND	ND	3.5	ND	14	ND	NA	NA	NA	NA
Apr-95	4.7	180	--	--	170	<6.0	3.8	<3.0	<3.0	ND	ND	ND	<3.0	ND	12	ND	NA	NA	NA	NA
Oct-94	<25	260	--	--	160	<25	<25	<25	<25	ND	ND	ND	<25	ND	<25	ND	NA	NA	NA	NA
Apr-94	9.2	270	--	--	263	6.7	12	9.1	2.3	ND	ND	ND	<0.5	ND	22	ND	NA	NA	NA	NA
Oct-93	7.0	330	--	--	320	<10	8.0	<5.0	<5.0	ND	ND	ND	8.0	ND	17	ND	NA	NA	NA	NA
Apr-93	8.0	420	--	--	240	30	8.0	<5.0	<5.0	ND	ND	ND	5.0	ND	16	ND	NA	NA	NA	NA
Oct-92	13	470	--	--	233	8.7	9.3	5.8	3.2	ND	ND	ND	NA	ND	21	ND	NA	NA	NA	NA
Apr-92	16	740	--	--	380	<5.0	18	<5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	ND	NA	NA	NA	NA
Jan-92	22	850	--	--	770	<5.0	24	<5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	ND	NA	NA	NA	NA
Jul-91	26	720	--	--	580	<5.0	17	<5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	ND	NA	NA	NA	NA
Apr-91	20	1,000	--	--	940	<10	<10	<10	<10	ND	ND	ND	<10	ND	22	ND	NA	NA	NA	NA
Jan-91	30	1,700	--	--	700	<10	10	10	<10	ND	ND	ND	<10	ND	<10	ND	NA	NA	NA	NA
Oct-90	20	1,400	--	--	930	<10	<10	<10	<10	ND	ND	ND	<10	ND	<10	ND	NA	NA	NA	NA
Jul-90	45	1,100	--	--	880	64	8.0	<5.0	<5.0	ND	ND	ND	<5.0	ND	11	ND	NA	NA	NA	NA
Apr-90	30	2,600	--	--	1,500	120	<20	<20	<20	ND	ND	ND	<20	ND	<20	ND	NA	NA	NA	NA
Feb-90	<50	2,800	--	--	200	<50	<50	<50	<50	ND	ND	ND	<50							

**Historical Groundwater Volatile Organic Compound Results**  
**Former TRW Microwave Site**  
**825 Stewart Drive, Sunnyvale, California**

Well Number/ Dates	PCE (µg/L)	TCE (µg/L)	cis- 1,2-DCE (µg/L)	trans- 1,2-DCE (µg/L)	Total 1,2-DCE (µg/L)	VC (µg/L)	1,1,1- TCA (µg/L)	1,1- DCE (µg/L)	1,1- DCA (µg/L)	CDM (µg/L)	Freon 11 (µg/L)	Freon 12 (µg/L)	Freon 113 (µg/L)	BFM (µg/L)	1,2- DCB (µg/L)	CBN (µg/L)	BEN (µg/L)	EBN (µg/L)	TOL (µg/L)	XYL (µg/L)
Drinking Water Standard	5	5	6	10	6	0.5	200	6	5	100	150	NE	1200	100	600	70	1	300	150	1750
<b>T-13A ZA</b>																				
Oct-17	<0.50	41	81	3.4	--	11	<0.50	<0.50	<0.50	--	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	NA	NA	NA	NA
Oct-16	<0.50	14	62	2.4	--	17	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	NA	NA	NA	NA
May-16	<0.50	21	71	4.9	--	15	<0.50	<0.50	<0.50	NA	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	NA	NA	NA	NA
May-16 Dup	<0.50	21	71	5.0	--	15	<0.50	<0.50	<0.50	NA	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	NA	NA	NA	NA
Oct-15	<0.50	23	120	4.0	--	18	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	NA	NA	NA	NA
Jun-15	<0.50	1.7	80	3.3	--	23	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	NA	NA	NA	NA
Jun-15 Dup	<0.50	2.1	96	3.9	--	28	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	NA	NA	NA	NA
Oct-14	<0.50	1.4	76	4.6	--	33	<0.50	<0.50	0.56	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	NA	NA	NA	NA
Oct-14 Dup	NA	NA	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Apr-14	<0.50	1.8	49	4.4	--	19	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Apr-14 Dup	<0.50	1.4	50	5.5	--	20	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-13	<0.50	1.2	79	8.2	--	38	<0.50	<0.50	0.59		<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	NA	NA	NA	NA
May-13	<0.50	3.1	31	4.1	--	16	<0.50	<0.50	<0.50		<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
May-13 Dup	<0.50	2.9	30	3.9	--	16	<0.50	<0.50	<0.50		<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-12	<0.50	1.2	20	2.3	--	17	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Apr-12	<0.50	0.74	18	1.6	--	5.8	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	0.52	<0.50	<0.50	<0.50	0.56	<1.0
Oct-11	0.84	70	66	2.8	--	10.0	<0.50	0.54	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-10	0.52	72	51	2.2	--	6.9	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Apr-10	<0.50	57	31	1.4	--	4.2	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-09	<0.50	26	40	2.40	--	8.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	0.52	1.2	<0.50	<0.50	<0.50	<1.0
Feb-09	<0.50	30	32	2.1	--	8.3	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	2.1	2.9	NA	NA	NA	NA
Oct-08	<25	38	<25	<25	--	<25	<25	<25	<25	<25	<50	<25	<25	<50	<25	<25	<25	<25	3100	<50
Oct-07	<5.0	48	260	<5.0	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jul-07	<5.0	180	64	<5.0	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Apr-07	<5.0	200	75	<5.0	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jan-07	6.2	300	120	<5.0	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Oct-06	<5.0	210	99	<5.0	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jul-06	<5.0	200	120	<5.0	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Apr-06	<5.0	180	140	6.2	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jan-06	<5.0	210	98	<5.0	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Nov-05	<5.0	200	98	<5.0	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
<b>T-14A ZA</b>																				
Oct-17	1	55	55	2.7	--	20	<0.50	<0.50	<0.50	--	<1.0	<0.50	<0.50	<1.0	2.3	<0.50	NA	NA	NA	NA
Oct-16	<0.50	23	42	3.4	--	23	<0.50	<0.50	0.56	<0.50	<1.0	<0.50	<0.50	<1.0	1.9	<0.50	NA	NA	NA	NA
May-16	<0.50	20	40	3.8	--	21	<0.50	<0.50	0.54	NA	<1.0	<0.50	<0.50	<1.0	2.1	<0.50	NA	NA	NA	NA
Oct-15	<0.50	23	56	3.9	--	34	<0.50	<0.50	0.58	<0.50	<1.0	<0.50	<0.50	<1.0	2.0	<0.50	NA	NA	NA	NA
Oct-14	<0.50	3.6	62	5.1	--	29	<0.50	<0.50	0.70	<0.50	<1.0 *	<0.50 *	<0.50	<1.0	2.0	<0.50	NA	NA	NA	NA
Apr-14	<0.50	4.1	43	4.2	--	22	<0.50	<0.50	0.53	<0.50	<1.0	<0.50	<0.50	<1.0	1.5	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-13	<0.50	2.0	53	6.3	--	35	<0.50	0.29 J	0.78		<1.0	<0.50	<0.50	<1.0	2.1	0.19 J	NA	NA	NA	NA
May-13	<0.50	4.2	33	4.4	--	25	<0.50	<0.50	0.63		<1.0	<0.50	<0.50	<1.0	2.1	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-12	<0.50	0.96	27	3.8	--	26	<0.50	<0.50	0.71	<0.50	<1.0	<0.50	<0.50	<1.0	2	<0.50	<0.50	<0.50	<0.50	<1.0
Apr-12	<0.50	3.0	42	3.1	--	16	<0.50	<0.50	0.51	<0.50	<1.0	<0.50	<0.50	<1.0	2.3	0.86	<0.50	<0.50	<0.50	<1.0
Oct-11	<0.50	28	38	2.8	--	6.7	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	1.0	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-10	<0.50	36	42	2.4	--	9.0	<0.50	<0.50	0.60	<0.50	<1.0	<0.50	<0.50	<1.0	1.9	<0.50	<0.50	<0.50	<0.50	<1.0
Apr-10	<0.50	28	37	2.2	--	9.7	<0.50	<0.50	0.51	<0.50	<1.0	<0.50	<0.50	<1.0	1.7	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-09	<0.50	9.0	16	1.9	--	7.4	<0.50	<0.50	0.53	<0.50	<1.0	<0.50	<0.50	<1.0	1.8	1.9	<0.50	<0.50	0.54	<1.0
Feb-09	<0.50	6.2	15	2.0	--	7.8	<0.50	<0.50	0.59	<0.50	<1.0	<0.50	<0.50	<1.0	2.4	2.2	NA	NA	NA	NA
Oct-08	<20	<20	45	<20	--	<20	<20	<20	<20	<20	<40	<20	<20	<40	<20	<20	<20	<20	1300	<40
Oct-07	<5.0	54	200	<5.0	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jul-07	<5.0	120	51	<5.0	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Apr-07	<5.0	160	58	<5.0	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Oct-06	<5.0	200	57	<5.0	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Apr-06	6.8	140	92	8	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jan-06	<5.0	150	63	<5.0	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15

**Historical Groundwater Volatile Organic Compound Results  
Former TRW Microwave Site  
825 Stewart Drive, Sunnyvale, California**

Well Number/ Dates	PCE (µg/L)	TCE (µg/L)	cis- 1,2-DCE (µg/L)	trans- 1,2-DCE (µg/L)	Total 1,2-DCE (µg/L)	VC (µg/L)	1,1,1- TCA (µg/L)	1,1- DCE (µg/L)	1,1- DCA (µg/L)	CDM (µg/L)	Freon 11 (µg/L)	Freon 12 (µg/L)	Freon 113 (µg/L)	BFM (µg/L)	1,2- DCB (µg/L)	CBN (µg/L)	BEN (µg/L)	EBN (µg/L)	TOL (µg/L)	XYL (µg/L)
Drinking Water Standard	5	5	6	10	6	0.5	200	6	5	100	150	NE	1200	100	600	70	1	300	150	1750
<b>T-16A</b>	<b>ZA</b>																			
Oct-17	1	59	72	2.5	--	3.4	<0.50	0.51	<0.50	--	<1.0	<0.50	<0.50	<1.0	1.2	<0.50	NA	NA	NA	NA
Oct-16	1.1	52	67	2.9	--	16	<0.50	<0.50	0.5	<0.50	<1.0	<0.50	<0.50	<1.0	1.2	<0.50	NA	NA	NA	NA
Oct-15	0.61	38	72	2.9	--	23	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	1	<0.50	NA	NA	NA	NA
Oct-14	1.7	97	78	3.7	--	2.5	<0.50	0.70	0.58	<0.50	<1.0	<0.50	<0.50	<1.0	1.7	<0.50	NA	NA	NA	NA
Oct-13	1.2	94	69	3.6	--	3.2	0.20 J	0.58	0.58		<1.0	<0.50	0.23 J	<1.0	1.4	<0.50	NA	NA	NA	NA
Oct-12	1	68	63	3.2	--	2.1	<0.50	0.57	0.5	<0.50	<1.0	<0.50	<0.50	<1.0	1.1	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-11	1.6	91	67	2.9	--	0.53	<0.50	0.7	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	1.5	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-10	0.81	72	64	2.2	--	0.76	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	0.89	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-09	0.59	40	44	2.2	--	0.84	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	0.61	<0.5	0.6	<0.50	0.56 B	<1.0
Oct-08	0.9	63	77	2.3	--	2.6	<0.5	0.53	<0.5	<0.5	<1	<0.5	<0.5	<1	1.4	<0.5	<0.5	<0.5	<0.5	<1
Oct-07	<5.0	79	160	<5.0	--	8.8	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.1	NA	<5.0	<5.0	<5.0	<5.0	<15
May-07	<5.0	120	71	<5.0	--	7.3	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Oct-06	<5.0	80	100	<5.0	--	8.2	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Apr-06	<5.0	17	160	9.5	--	26	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jan-06	<5.0	20	120	<5.0	--	45	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Nov-05	<5.0	24	160	<5.0	--	32	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15

**Historical Groundwater Volatile Organic Compound Results**  
**Former TRW Microwave Site**  
**825 Stewart Drive, Sunnyvale, California**

Well Number/ Dates	PCE (µg/L)	TCE (µg/L)	cis- 1,2-DCE (µg/L)	trans- 1,2-DCE (µg/L)	Total 1,2-DCE (µg/L)	VC (µg/L)	1,1,1- TCA (µg/L)	1,1- DCE (µg/L)	1,1- DCA (µg/L)	CDM (µg/L)	Freon 11 (µg/L)	Freon 12 (µg/L)	Freon 113 (µg/L)	BFM (µg/L)	1,2- DCB (µg/L)	CBN (µg/L)	BEN (µg/L)	EBN (µg/L)	TOL (µg/L)	XYL (µg/L)
Drinking Water Standard	5	5	6	10	6	0.5	200	6	5	100	150	NE	1200	100	600	70	1	300	150	1750
<b>T-17A ZA</b>																				
Oct-17	1.2	72	13	<0.50	--	<0.50	<0.50	<0.50	<0.50	--	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	NA	NA	NA	NA
Oct-16	0.85	50	15	<0.50	--	0.94	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0 *	<0.50	<0.50	NA	NA	NA	NA
May-16	1.2	74	6.5	<0.50	--	<0.50	<0.50	<0.50	<0.50	NA	<1.0	<0.50	0.50	<1.0	<0.50	<0.50	NA	NA	NA	NA
Oct-15	1.1	63	12	<0.50	--	0.58	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	NA	NA	NA	NA
Jun-15	1.4	76	16	0.51	--	0.71	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	NA	NA	NA	NA
Oct-14	0.88	62	30	0.57	--	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0 *	<0.50 *	<0.50	<1.0	<0.50	<0.50	NA	NA	NA	NA
Apr-14	0.87	57	16	<0.50	--	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-13	1.3	86	21	0.42 J	--	<0.50	<0.50	0.25 J	0.35 J		<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	NA	NA	NA	NA
May-13	0.80	71	14	<0.50	--	<0.50	<0.50	<0.50	<0.50		<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-12	1.3	92	4.5	<0.50	--	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	0.62	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Apr-12	1.3	96	5.8	<0.50	--	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Nov-11	1.7	110	6.6	<0.50	--	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
<b>T-19A ZA</b>																				
Oct-17	<0.50	<0.50	3.3	2.2	--	17	<0.50	<0.50	<0.50	--	<1.0	<0.50	<0.50	<1.0	0.82	<0.50	NA	NA	NA	NA
Oct-16	<0.50	<0.50	3.7	2.6	--	15	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	0.78	0.52	NA	NA	NA	NA
May-16	<0.50	<0.50	6.7	1.5	--	12	<0.50	<0.50	<0.50	NA	<1.0	<0.50	<0.50	<1.0	0.78	0.80	NA	NA	NA	NA
Oct-15	<0.50	<0.50	13	3.0	--	33	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	1.1	0.75	NA	NA	NA	NA
Jun-15	<0.50	<0.50	12	3.2	--	32	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	2.0	1.4	NA	NA	NA	NA
Oct-14	<0.50	<0.50	15	1.9	--	11	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	0.93	1.8	NA	NA	NA	NA
Apr-14	<0.50	<0.50	3.7	1.4	--	3.1	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	0.75	1.3	<0.50	<0.50	<0.50	<1.0
Oct-13	<0.50	<0.50	2.6	0.87	--	2.3	<0.50	<0.50	<0.50		<1.0	<0.50	<0.50	<1.0	0.92	2.6	NA	NA	NA	NA
May-13	<0.50	<0.50	3.4	0.84	--	4.3	<0.50	<0.50	<0.50		<1.0	<0.50	<0.50	<1.0	0.98	2.0	<0.50	<0.50	<0.50	<1.0
Oct-12	<0.50	<0.50	9.1	1.3	--	5.6	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	1.8	3.8	<0.50	<0.50	0.8	<1.0
Apr-12	<0.50	<0.50	2.1	1.2	--	0.92	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	1.60	4.3	<0.50	<0.50	0.77	<1.0
Oct-11	<0.50	4.1	16	1.60	--	10	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	1.80	1.3	<0.50	<0.50	<0.50	1
Oct-10	<0.50	0.89	7.7	0.72	--	10	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	0.87	1.2	<0.50	<0.50	<0.50	<1.0
Apr-10 Dup	<0.50	0.89	1.6	<0.50	--	0.81	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	0.56	1.1	<0.50	<0.50	<0.50	<1.0
Apr-10	<0.50	0.98	1.6	<0.50	--	0.88	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	0.65	1.3	<0.50	<0.50	<0.50	<1.0
Oct-09	<0.50	<0.50	4.6	0.84	--	2.8	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	1.3	3.9	<0.50	<0.50	<0.50	<1.0
Feb-09 Dup	<0.50	<0.50	2.6	0.78	--	1.4	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	1.2	6.3	NA	NA	NA	NA
Feb-09	<0.50	<0.50	1.9	0.65	--	1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	1.0	6.0	NA	NA	NA	NA
Oct-08	<50	<50	<50	<50	--	<50	<50	<50	<50	<50	<100	<50	<50	<100	<50	<50	<50	<50	3500	<100
Oct-07	<5.0	53	140	<5.0	--	8	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Sep-07	<5.0	140	55	<5.0	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
<b>T-23A ZA</b>																				
Oct-17	0.69 F1	78	55	1.3 F1	--	8.8 F1	<0.50	<0.50	<0.50	--	<1.0 F1	<0.50	<0.50	<1.0 F2	<0.50	<0.50	NA	NA	NA	NA
Oct-16	0.57	60	51	1.3	--	4.2	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	NA	NA	NA	NA
May-16	0.56	58	51	1.4	--	5.7	<0.50	<0.50	<0.50	NA	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	NA	NA	NA	NA
Oct-15	0.71	64	61	1.8	--	7.8	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	NA	NA	NA	NA
Jun-15	0.83	78	53	2.5	--	4.7	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	NA	NA	NA	NA
Oct-14	<0.50	32	51	3.3	--	6.5	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	NA	NA	NA	NA
Apr-14	<0.50	45	60	6.0	--	7.1	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-13	<0.50	19	54	12	--	7.6	<0.50	<0.50	<0.50		<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	NA	NA	NA	NA
May-13	<0.50	48	57	4.4	--	7.6	<0.50	<0.50	<0.50		<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-12	<0.50	36	73	2.4	--	6.6	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Apr-12	<0.50	2.0	58	2.0	--	3.2	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	1.1	0.79	<0.50	<0.50	3.5	<1.0
Apr-12 Dup	<0.50	2.0	61	1.9	--	3.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	1.0	0.76	<0.50	<0.50	3.3	<1.0
Oct-11	0.62	62	39	4.2	--	2.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-10	0.60	51	37	4.3	--	3.5	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	0.56	<0.50	<0.50	<0.50	<0.50	<1.0
Apr-10	<0.50	41	19	2.8	--	2.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	0.54	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-09	<0.50	11	14	2.0	--	3.1	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	0.55	ND	<0.50	<0.50	<0.50	<1.0
Feb-09	<0.50	17	29	2.1	--	9.7	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	1.5	1.8	NA	NA	NA	NA
Oct-08	<10	16	12	<10	--	<10	<10	<10	<10	<10	<20	<10	<10	<20	<10	<10	<10	<10	890	<20
Oct-07	<5.0	130	120	<5.0	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Sep-07	7.7	210	21	<5.0	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
<b>T-25A ZA</b>																				
Oct-17	1.3	57	49	2.0	--	20	<0.50	<0.50	0.51	--	<1.0	<0.50	<0.50	<1.0	2.8	<0.50	--	--	--	--
Oct-16	1.6	68	43	2.5	--	19	<0.50	<0.50	0.52	<0.50	<1.0	<0.50	<0.50	<1.0	2	<0.50	NA	NA	NA	NA
May-16	0.85	44	46	2.1	--	23	<0.50	<0.50	<0.50	NA	<1.0	<0.50	<0.50	<1.0	1.8	<0.50	NA	NA	NA	NA
Oct-15	0.64	27	60	3.1	--	39	<0.50	<0.50	0.57	<0.50	<1.0	<0.50	<0.50	<1.0	1.9	<0.50	NA	NA	NA	NA
Jun-15	0.71	25	61	8.8	--	38	<0.50	<0.50	0.61	<0.50	<1.0	<0.50	<0.50	<1.0	2.5	<0.50	NA	NA	NA	NA
Oct-14	<0.50	4.0	39	4.1	--	35	<0.50	<0.50	0.60	<0.50	<1.0	<0.50	<0.50	<1.0	2.3	<0.50	NA	NA	NA	NA
Apr-14	<0																			

**Historical Groundwater Volatile Organic Compound Results**  
**Former TRW Microwave Site**  
**825 Stewart Drive, Sunnyvale, California**

Well Number/ Dates	PCE (µg/L)	TCE (µg/L)	cis- 1,2-DCE (µg/L)	trans- 1,2-DCE (µg/L)	Total 1,2-DCE (µg/L)	VC (µg/L)	1,1,1- TCA (µg/L)	1,1- DCE (µg/L)	1,1- DCA (µg/L)	CDM (µg/L)	Freon 11 (µg/L)	Freon 12 (µg/L)	Freon 113 (µg/L)	BFM (µg/L)	1,2- DCB (µg/L)	CBN (µg/L)	BEN (µg/L)	EBN (µg/L)	TOL (µg/L)	XYL (µg/L)
Drinking Water Standard	5	5	6	10	6	0.5	200	6	5	100	150	NE	1200	100	600	70	1	300	150	1750
<b>36S ZA</b>																				
Oct-16	2.1	71	93	<0.50	--	<0.50	0.52	<0.50	<0.50	NA	NA	NA	<0.50	NA	<0.50	NA	NA	NA	NA	NA
Oct-15	2.8	71	9	<0.5	--	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	<2.0	NA	<0.5	NA	NA	NA	NA	NA
Oct-14	2.2	73	13	0.8	--	1.7	0.6	0.6	<0.5	NA	NA	NA	<2.0	NA	<0.5	NA	NA	NA	NA	NA
Oct-13	2.3	74	8.1	<0.5	--	<0.5	0.5	<0.5	<0.5	NA	NA	NA	<2.0	NA	<5.0	NA	NA	NA	NA	NA
Oct-12	2.0 J	1	10	<0.5	--	<0.5	0.6	0.5	<0.5	NA	NA	NA	<2.0	NA	<5.0	NA	NA	NA	NA	NA
Oct-11	1.8 J	73	8	<0.5	--	<0.5	0.7	0.5	<0.5	NA	NA	NA	<2.0	NA	<5.0	NA	NA	NA	NA	NA
Oct-10+	2.0	75	11	0.6	--	<0.5	0.7	0.5	<0.5	NA	NA	NA	<2.0	NA	<0.5	NA	NA	NA	NA	NA
Oct-09+	2.2	80	9.3	<0.5	--	<0.5	0.6	<0.5	<0.5	NA	NA	NA	<2.0	NA	<0.5	NA	NA	NA	NA	NA
Oct-08+	2.4	98	13	0.6	--	<0.5	0.7	<0.5	<0.5	NA	NA	NA	<2.0	NA	<0.5	NA	NA	NA	NA	NA
Oct-07+	1.5	70	15	0.9	--	<0.7	<0.7	0.8	<0.7	ND	ND	ND	<0.7	ND	<0.7	<0.7	NA	NA	NA	NA
Oct-06+	2.6	98	20	0.9	--	<0.5	0.9	0.6	<0.5	ND	ND	ND	0.8	ND	<0.5	<0.5	NA	NA	NA	NA
Oct-05+	2.1	91	22	0.8	--	<1.0	1.1	0.6	<0.5	ND	ND	ND	0.6	ND	<0.5	<0.5	NA	NA	NA	NA
Oct-04+	1.8	91	34	1.1	--	<0.5	1.1	0.6	0.5	ND	ND	ND	1.9	ND	<0.5	<0.5	NA	NA	NA	NA
Oct-03+	1.7	100	53	1.6	--	1.1	1.2	0.7	0.7	ND	ND	ND	<1.0	ND	<0.5	<0.5	NA	NA	NA	NA
Oct-02+	1.8	140	70	1.9	--	<0.5	1.7	0.8	0.7	ND	ND	ND	1.2	ND	<0.5	<0.5	NA	NA	NA	NA
Oct-01+	2.1	140	110	2.8	--	<0.5	2.5	1.1	1.0	ND	ND	ND	1.8	ND	<0.5	<0.5	NA	NA	NA	NA
Oct-00+	1.3	83	100	5.6	--	<1.0	1.6	1.2	0.9	ND	ND	ND	1.8	ND	<0.5	<0.5	NA	NA	NA	NA
Oct-99	1.2	50	83	4.4	--	<1.0	1.7	<1.0	<1.0	ND	ND	ND	1.0	ND	<1.0	<1.0	NA	NA	NA	NA
Oct-97+	<0.5	20	16	5.2	--	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	<0.5	NA	NA	NA	NA
Oct-96	0.7	25	6.1	3.0	--	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	<0.5	NA	NA	NA	NA
Oct-95	<1.0	21	--	--	<1.0	<2.0	<1.0	<1.0	<1.0	ND	ND	ND	<1.0	ND	<1.0	<1.0	NA	NA	NA	NA
Oct-94	<5.0	19	--	--	<5.0	<5.0	<5.0	<5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	<5.0	NA	NA	NA	NA
Oct-93	<2.5	66	--	--	<2.5	<5.0	<2.5	<2.5	<2.5	ND	ND	ND	<2.5	ND	<2.5	<2.5	NA	NA	NA	NA
Oct-92	2.1	35	--	--	<0.5	<1.0	<0.5	<0.5	<0.5	ND	ND	ND	NA	ND	<0.5	<0.5	NA	NA	NA	NA
Oct-89	4	130	--	--	13	<0.5	5.7	0.8	<0.5	NA	NA	NA	2	ND	<0.5	NA	NA	NA	NA	NA
May-88	3.9	140	--	--	26	<1.0	20	3.3	1.6	NA	NA	NA	13	ND	1.8	NA	NA	NA	NA	NA
Jan-88	5.8	170	--	--	15	<1.0	23	3.8	1.3	NA	NA	NA	14	ND	<1.0	NA	NA	NA	NA	NA
Oct-87	3.5	160	--	--	10	<1.0	20	2.5	1.7	NA	NA	NA	14	ND	<1.0	NA	NA	NA	NA	NA
Jun-87	<1.0	170	--	--	11	<1.0	15	1.6	<1.0	NA	NA	NA	8.2	ND	<1.0	NA	NA	NA	NA	NA
Apr-87	4	200	--	--	12	<2.5	34	6	<2.5	NA	NA	NA	19	ND	<2.5	NA	NA	NA	NA	NA
Jan-87	<10	140	--	--	<10	<10	34	<10	<10	NA	NA	NA	28	ND	<10	NA	NA	NA	NA	NA
Sep-86	5.3	200	--	--	5.75	<1.0	27.5	2.9	2.1	NA	NA	NA	16.5	ND	7.95	NA	NA	NA	NA	NA
Jul-86	3.3	59	--	--	7.7	<0.5	32	3.2	1.6	NA	NA	NA	15	ND	<0.5	NA	NA	NA	NA	NA
Apr-86	3.4	130	--	--	10	<0.5	36	3.5	1.5	NA	NA	NA	<0.5	ND	<0.5	NA	NA	NA	NA	NA
Jan-86	11	190	--	--	25	<2.0	42	3.4	<2.0	NA	NA	NA	<2.0	ND	<2.0	NA	NA	NA	NA	NA
Oct-85	<5.0	250	--	--	23	<5.0	65	<5.0	<5.0	NA	NA	NA	90	ND	ND	NA	NA	NA	NA	NA
Nov-84	4.7	150	--	--	8.8	NA	19	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA
Aug-84	8	230	--	--	12	ND	23	2	ND	NA	NA	NA	40	ND	ND	NA	NA	NA	NA	NA
Mar-84	NA	360	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA
Aug-83	19	470	--	--	<1.0	ND	36	16	<1.0	NA	NA	NA	<1.0	ND	ND	NA	NA	NA	NA	NA
May-83	ND	82	--	--	ND	ND	ND	ND	ND	NA	NA	NA	ND	ND	ND	NA	NA	NA	NA	NA
Apr-83	13	400	--	--	23	ND	16	ND	ND	NA	NA	NA	12	ND	ND	NA	NA	NA	NA	NA
Aug-82	10	590	--	--	55	ND	19	<2.0	<2.0	NA	NA	NA	2	ND	ND	NA	NA	NA	NA	NA
Jun-82	18	710	--	--	<10	ND	42	<10	<10	NA	NA	NA	19	ND	ND	NA	NA	NA	NA	NA

**Historical Groundwater Volatile Organic Compound Results**  
**Former TRW Microwave Site**  
**825 Stewart Drive, Sunnyvale, California**

Well Number/ Dates	PCE (µg/L)	TCE (µg/L)	cis- 1,2-DCE (µg/L)	trans- 1,2-DCE (µg/L)	Total 1,2-DCE (µg/L)	VC (µg/L)	1,1,1- TCA (µg/L)	1,1- DCE (µg/L)	1,1- DCA (µg/L)	CDM (µg/L)	Freon 11 (µg/L)	Freon 12 (µg/L)	Freon 113 (µg/L)	BFM (µg/L)	1,2- DCB (µg/L)	CBN (µg/L)	BEN (µg/L)	EBN (µg/L)	TOL (µg/L)	XYL (µg/L)
Drinking Water Standard	5	5	6	10	6	0.5	200	6	5	100	150	NE	1200	100	600	70	1	300	150	1750
<b>36D ZA</b>																				
Oct-17	<0.50	4.2	2.2	<0.50	--	<0.50	<0.50	<0.50	<0.50	NA	NA	NA	<0.50	NA	<0.50	NA	NA	NA	NA	NA
Oct-16	<0.50	2.7	0.84	<0.50	--	<0.50	<0.50	<0.50	<0.50	NA	NA	NA	<0.50	NA	<0.50	NA	NA	NA	NA	NA
Oct-15	1.6	40	12	0.6	--	<0.5	<0.5	0.6	<0.5	NA	NA	NA	<2.0	NA	<0.5	NA	NA	NA	NA	NA
Oct-14	1.8	56	23	0.9	--	<0.5	<0.5	0.6	<0.5	NA	NA	NA	<2.0	NA	<0.5	NA	NA	NA	NA	NA
Oct-13	1.3	38	28	0.8	--	<0.5	<0.5	0.6	<0.5	NA	NA	NA	<2.0	NA	<5.0	NA	NA	NA	NA	NA
Oct-11	1.6 J	47	29	1.0	--	<0.5	<0.5	0.6	<0.5	NA	NA	NA	<2.0	NA	<5.0	NA	NA	NA	NA	NA
Oct-11	0.7 J	29	34	1.2	--	<0.5	<0.5	0.7	<0.5	NA	NA	NA	<2.0	NA	<5.0	NA	NA	NA	NA	NA
Oct-10+	1.4	47	34	1.2	--	<0.5	<0.5	0.7	<0.5	NA	NA	NA	<2.0	NA	<0.5	NA	NA	NA	NA	NA
Oct-09+	<0.5	19	40	1.1	--	<0.5	<0.5	0.5	<0.5	NA	NA	NA	<2.0	NA	<0.5	NA	NA	NA	NA	NA
Oct-08+	0.7	27	5.8	<0.5	--	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	<2.0	NA	<0.5	NA	NA	NA	NA	NA
Oct-07+	<0.5	17	6.1	<0.5	--	<0.5	<0.5	<0.5	<0.5	0.8	ND	ND	<0.5	ND	<0.5	<0.5	NA	NA	NA	NA
Oct-06+	2.1	92	42	1.6	--	0.6	0.9	1.0	0.7	ND	ND	ND	1.2	ND	<0.5	<0.5	NA	NA	NA	NA
Oct-05+	<0.5	4.6	1.5	<0.5	--	0.5	<0.5	<0.5	<0.5	ND	ND	ND	<1.0	ND	<0.5	ND	NA	NA	NA	NA
Oct-04+	1.6	85	46	1.7	--	2.4	1.1	0.8	0.6	ND	ND	ND	1.7	ND	0.8	ND	NA	NA	NA	NA
Apr-04	<1.0	45	27	2.5	--	12	<1.0	<1.0	<1.0	NA	<1.0	<1.0	NA	<1.0	NA	<1.0	<1.0	<1.0	<1.0	<2.0
Oct-03+	1.7	110	57	1.5	--	0.9	1.3	0.9	0.8	ND	ND	ND	1.1	ND	0.8	ND	NA	NA	NA	NA
Apr-03	<1.0	69	40	<1.0	--	8.2	<1.0	<1.0	<1.0	NA	<2.0	<2.0	NA	<1.0	NA	<1.0	NA	<1.0	<1.0	<2.0
Oct-02+	1.8	150	90	2.3	--	<0.5	1.7	1.2	1.0	ND	ND	ND	1.9	ND	1.1	ND	NA	NA	NA	NA
Oct-01+	0.9	67	48	1.1	--	<0.5	1.2	0.6	<0.5	ND	ND	ND	1.4	<1.0	<0.5	ND	NA	NA	NA	NA
Oct-00+	1.6	110	97	2.2	--	<1.0	1.9	1.0	0.8	ND	ND	ND	1.6	ND	0.7	ND	NA	NA	NA	NA
Oct-00 Dup+	1.6	100	91	2.5	--	<1.0	1.8	1.1	0.7	ND	ND	ND	1.5	ND	0.7	ND	NA	NA	NA	NA
Oct-99	<2.0	85	120	2.7	--	<2.0	2.6	<2.0	<2.0	ND	ND	ND	<2.0	ND	<2.0	ND	NA	NA	NA	NA
Apr-98+	<5.0	81	130	<5.0	--	<5.0	NA	<5.0	<5.0	ND	ND	ND	<20	ND	<5.0	ND	NA	NA	NA	NA
Oct-97+	<0.5	52	91	1.2	--	<0.5	2.1	<0.5	0.9	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Oct-96	1.2	48	34	<0.5	--	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	0.6	ND	NA	NA	NA	NA
Oct-95	<1.0	25	--	--	2.1	<2.0	<1.0	<1.0	<1.0	ND	ND	ND	<1.0	ND	<1.0	ND	NA	NA	NA	NA
Oct-94	<5.0	66	--	--	<5.0	<5.0	<5.0	<5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	ND	NA	NA	NA	NA
Oct-93	<5.0	94	--	--	<5.0	<10	<5.0	<5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	ND	NA	NA	NA	NA
Oct-92	2.1	92	--	--	6.4	<1.0	1.0	<0.5	<0.5	ND	ND	ND	NA	ND	1.6	ND	NA	NA	NA	NA
Apr-92	4.0	180	--	--	25	<1.0	3.0	1.0	2.0	ND	ND	ND	<1.0	ND	<1.0	ND	NA	NA	NA	NA
Jan-92	1.6	170	--	--	48	<1.0	2.9	<1.0	<1.0	ND	ND	ND	<1.0	ND	1.6	ND	NA	NA	NA	NA
Oct-91	2.5	120	--	--	41	<0.5	2.2	1.8	1.2	ND	ND	ND	0.6	ND	2.3	ND	NA	NA	NA	NA
Jul-91	2.0	130	--	--	32	<1.0	1.0	<1.0	1.0	ND	ND	ND	1.0	ND	3.0	ND	NA	NA	NA	NA
Apr-91	<2.0	180	--	--	48	<2.0	<2.0	<2.0	<2.0	ND	ND	ND	<2.0	ND	<2.0	ND	NA	NA	NA	NA
Jan-91	2.0	120	--	--	39	<1.0	1.0	1.0	1.0	ND	ND	ND	<1.0	ND	3.0	ND	NA	NA	NA	NA
Oct-90	2.6	120	--	--	37	<0.5	2.7	<0.5	<0.5	ND	ND	ND	<0.5	ND	2.1	ND	NA	NA	NA	NA
Jul-90	2.7	110	--	--	31	<0.5	2.7	1.3	0.9	ND	ND	ND	1.3	ND	5.0	ND	NA	NA	NA	NA
Apr-90	3.0	170	--	--	18	<1.0	2.0	1.0	<1.0	ND	ND	ND	<1.0	ND	4.0	ND	NA	NA	NA	NA
Jan-90	3.0	170	--	--	26	<1.0	4.0	2.0	<1.0	ND	ND	ND	1.0	ND	4.0	ND	NA	NA	NA	NA
Oct-89	4.3	120	--	--	23	<0.5	9.6	2.7	0.8	NA	ND	NA	7.4	ND	<0.5	NA	NA	NA	NA	NA
Aug-89	4	200	--	--	27	<2.0	10	6	<2.0	NA	ND	NA	7	ND	8	NA	NA	NA	NA	NA
May-89	<2.5	<2.5	--	--	<2.5	<2.5	<2.5	<2.5	<2.5	NA	ND	NA	<2.5	ND	<2.5	NA	NA	NA	NA	NA
Feb-89	<5.0	180	--	--	36	<5.0	8	<5.0	<5.0	NA	ND	NA	12	ND	<5.0	NA	NA	NA	NA	NA
Feb-89	<2.0	61	--	--	21	<2.0	4	<2.0	<2.0	NA	ND	NA	<2.0	ND	5	NA	NA	NA	NA	NA
Feb-89	<2.0	51	--	--	17	<2.0	3	<2.0	<2.0	NA	ND	NA	<2.0	ND	3	NA	NA	NA	NA	NA
Nov-88	3.2	180	--	--	37	<1.0	14	3.5	1.6	NA	ND	NA	16	ND	13	NA	NA	NA	NA	NA
Aug-88	5	150	--	--	53	<1.0	30	5.6	2.8	NA	ND	NA	34	ND	11	NA	NA	NA	NA	NA
May-88	4.2	170	--	--	47	<1.0	31	5.5	2.6	NA	ND	NA	20	ND	11	NA	NA	NA	NA	NA
Jan-88	4.1	100	--	--	20	<1.0	34	3.5	1.9	NA	ND	NA	30	ND	9.4	NA	NA	NA	NA	NA
Oct-87	3.3	68	--	--	16	<0.5	29	3.4	2.3	NA	ND	NA	22	ND	14	NA	NA	NA	NA	NA
Jun-87	5.9	170	--	--	14	<1.0	22	2.9	1.9	NA	ND	NA	21	ND	24	NA	NA	NA	NA	NA
Apr-87	3	160	--	--	13	<1.0	25	4.7	1.7	NA	ND	NA	16	ND	18	NA	NA	NA	NA	NA
Jan-87	<10	170	--	--	<10	<10	28	<10	<10	NA	ND	NA	54	ND	<10	NA	NA	NA	NA	NA
Sep-86	20	170	--	--	8.6	<1.0	40	5.1	3.5	NA	ND	NA	17	ND	18	NA	NA	NA	NA	NA
Jul-86	3.6	60	--	--	10	<0.5	43	4.8	2.3	NA	ND	NA	25	ND	<0.5	NA	NA	NA	NA	NA
Apr-86	3	130	--	--	12	<0.5	39	4.3	1.9	NA	ND	NA	<0.5	ND	<0.5	NA	NA	NA	NA	NA
Oct-85	16	220	--	--	17	<5.0	77	<5.0	<5.0	NA	ND	NA	120	ND	<5.0	NA	NA	NA	NA	NA
Nov-84	4.2	160	--	--	10	NA	26	NA	NA	NA	ND	NA	NA	ND	NA	NA	NA	NA	NA	NA
Aug-84	6	180	--	--	12	ND	19	2	ND	NA	ND	NA	30	ND	ND	NA	NA	NA	NA	NA
Mar-84	NA	260	--	--	NA	NA	NA	NA	NA	NA	ND	NA	NA	ND	NA	NA	NA	NA	NA	NA
Aug-83	15	600	--	--	18	NA	36	13	16	NA	ND	NA	<1.0	ND	NA	NA	NA	NA	NA	NA
Jul-83	8	650	--	--	38	ND	18	2	2	NA	ND	NA	ND	ND	ND	NA	NA	NA	NA	NA
May-83	14	9,200	--	--	ND	ND	18	ND	ND	NA	ND	NA	ND	ND	ND	NA	NA	NA	NA	NA
Aug-82	6.8	500	--	--	52	ND	19	<2.0	<2.0	NA	ND	NA	<2.0	ND	ND	NA	NA	NA	NA	NA

**Historical Groundwater Volatile Organic Compound Results**  
**Former TRW Microwave Site**  
**825 Stewart Drive, Sunnyvale, California**

Well Number/ Dates	PCE (µg/L)	TCE (µg/L)	cis- 1,2-DCE (µg/L)	trans- 1,2-DCE (µg/L)	Total 1,2-DCE (µg/L)	VC (µg/L)	1,1,1- TCA (µg/L)	1,1- DCE (µg/L)	1,1- DCA (µg/L)	CDM (µg/L)	Freon 11 (µg/L)	Freon 12 (µg/L)	Freon 113 (µg/L)	BFM (µg/L)	1,2- DCB (µg/L)	CBN (µg/L)	BEN (µg/L)	EBN (µg/L)	TOL (µg/L)	XYL (µg/L)
Drinking Water Standard	5	5	6	10	6	0.5	200	6	5	100	150	NE	1200	100	600	70	1	300	150	1750
<b>37S ZA</b>																				
Oct-17	5.9	420	43	<5.0	--	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	6.7	NA	<5.0	NA	NA	NA	NA	NA
Oct-16	0.6	43	4.1	<0.50	--	<0.50	<0.50	<0.50	<0.50	NA	NA	NA	0.66	NA	<0.50	NA	NA	NA	NA	NA
Oct-15	0.9	49	3.8	<0.5	--	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	<2.0	NA	<5.0	NA	NA	NA	NA	NA
Oct-14	0.8	83	2.7	<0.5	--	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	<2.0	NA	<5.0	NA	NA	NA	NA	NA
Oct-13	1.0	95	1.6	<0.5	--	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	<2.0	NA	<5.0	NA	NA	NA	NA	NA
Oct-12	0.8 J	63	2.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	<2.0	NA	<5.0	NA	NA	NA	NA	NA
Oct-11	0.8 J	63	2.3	<0.5	--	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	<2.0	NA	<5.0	NA	NA	NA	NA	NA
Oct-10+	0.9	60	3.7	<0.5	--	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	<2.0	NA	<0.5	NA	NA	NA	NA	NA
Oct-09+	1.4	91	2.2	<0.5	--	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	<2.0	NA	<0.5	NA	NA	NA	NA	NA
Oct-08+	1.1	81	3.6	<0.5	--	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	<2.0	NA	<0.5	NA	NA	NA	NA	NA
Oct-07+	1.0	81	2.4	<0.5	--	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	1.8	ND	<0.5	<0.5	NA	NA	NA	NA
Oct-05+	1.0	91	5.2	<0.7	--	<0.7	<0.7	<0.7	<0.7	ND	ND	ND	<1.4	ND	<0.7	ND	NA	NA	NA	NA
Oct-04+	1.2	11	3.3	<0.7	--	<0.7	<0.7	<0.7	<0.7	ND	ND	ND	1.9	ND	<0.7	ND	NA	NA	NA	NA
Oct-03+	1.3	160	2.9	<0.6	--	<0.6	<0.6	<0.6	<0.6	ND	ND	ND	<1.3	ND	<0.6	ND	NA	NA	NA	NA
Oct-02+	0.9	170	3.7	<0.7	--	<0.7	<0.7	<0.7	<0.7	ND	ND	ND	<1.4	ND	<0.7	ND	NA	NA	NA	NA
Oct-01	<5.0	140	<5.0	<5.0	--	<5.0	<5.0	<5.0	<5.0	ND	ND	ND	<20	ND	<5.0	ND	NA	NA	NA	NA
Oct-00+	1.2	200	9.7	<0.5	--	1.8	<0.5	<0.5	<0.5	ND	ND	ND	2.1	ND	<0.5	ND	NA	NA	NA	NA
Oct-99	<5.0	180	<5.0	<5.0	--	<5.0	<5.0	<5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	ND	NA	NA	NA	NA
Oct-97+	<2.5	260	12	<2.5	--	<2.5	<2.5	<2.5	<2.5	ND	ND	ND	<2.5	ND	<2.5	ND	NA	NA	NA	NA
Oct-96	1.2	270	6.3	<1.0	--	<1.0	<1.0	<1.0	<1.0	ND	ND	ND	2.0	ND	<1.0	ND	NA	NA	NA	NA
Oct-95	<1.0	380	--	--	7.1	<2.0	<1.0	<1.0	<1.0	ND	ND	ND	3.8	ND	<1.0	ND	NA	NA	NA	NA
Oct-94	<5.0	330	--	--	<5.0	<5.0	<5.0	<5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	ND	NA	NA	NA	NA
Oct-93	<5.0	400	--	--	8.0	<10	<5.0	<5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	ND	NA	NA	NA	NA
Jun-88	<1.0	150	--	--	170	<1.0	5.8	<1.0	<1.0	NA	NA	ND	<1.0	ND	<1.0	NA	NA	NA	NA	NA
Jan-88	<10	1,100	--	--	34	<10	<10	<10	<10	NA	NA	ND	95	ND	<10	NA	NA	NA	NA	NA
Jan-87	<5.0	600	--	--	25	<5.0	<5.0	<5.0	<5.0	NA	NA	ND	52	ND	<5.0	NA	NA	NA	NA	NA
Nov-84	6.6	1,300	--	--	32	NA	3.2	NA	NA	NA	NA	ND	NA	ND	NA	NA	NA	NA	NA	NA
Aug-84	8	760	--	--	52	ND	4	ND	ND	NA	NA	ND	ND	ND	NA	NA	NA	NA	NA	NA
Mar-84	NA	1,400	--	--	NA	NA	NA	NA	NA	NA	NA	ND	NA	ND	NA	NA	NA	NA	NA	NA
Sep-83	37	4,200	--	--	290	NA	4	ND	ND	NA	NA	ND	190	ND	NA	NA	NA	NA	NA	NA
Sep-83	47	3,500	--	--	240	NA	5	ND	ND	NA	NA	ND	14	ND	NA	NA	NA	NA	NA	NA
Aug-83	34	41,000	--	--	4,600	5	13	2.0	1.6	NA	NA	ND	<1.0	ND	ND	NA	NA	NA	NA	NA
May-83	ND	270	--	--	17	ND	ND	ND	ND	NA	NA	ND	ND	ND	NA	NA	NA	NA	NA	NA
Apr-83	10	330	--	--	77	ND	ND	ND	ND	NA	NA	ND	120	ND	ND	NA	NA	NA	NA	NA
Aug-82	9	1,400	--	--	27	ND	13	<2.0	<2.0	NA	NA	ND	78	ND	ND	NA	NA	NA	NA	NA
Jun-82	<10	2,600	--	--	<10	ND	<10	<10	<10	NA	NA	ND	370	ND	ND	NA	NA	NA	NA	NA
<b>38S ZA</b>																				
Oct-17	<0.50	61	170	1.5	--	6.7	<0.50	0.62	<0.50	--	<1.0	<0.50	1.4	<1.0	<0.50	<0.50	NA	NA	NA	NA
Oct-16	0.6	50	77	0.94	--	3.1	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	0.58	<1.0 *	<0.50	<0.50	NA	NA	NA	NA
Oct-15	1.0	83	98	0.98	--	4.9	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	1.0	<1.0	<0.50	<0.50	NA	NA	NA	NA
Oct-14	<0.50	45	200	2.3	--	12	<0.50	0.9	<0.50	<0.50	<1.0	<0.50	1.3	<1.0	<0.50	<0.50	NA	NA	NA	NA
Oct-13	0.93	96	150	1.7	--	7.4	<0.50	0.70	0.36 J	<0.50	<1.0	<0.50	1.4	<1.0	<0.50	<0.50	NA	NA	NA	NA
May-13	<2.5	60	180	<2.5	--	7.2	<2.5	<2.5	<2.5	<0.50	<5.0	<2.5	<2.5	<5.0	<2.5	<2.5	<2.5	<2.5	<2.5	<5.0
Oct-12	0.84	91	200	2.5	--	11	<0.50	0.84	<0.50	<0.50	<1.0	<0.50	1.8	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Apr-12	<0.50	32	120	1.4	--	11	<0.50	0.60	<0.50	<0.50	<1.0	<0.50	0.80	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-11	<2.5	130	140	<2.5	--	6.7	<2.5	<2.5	<2.5	<2.5	<5.0	<2.5	<2.5	<5.0	<2.5	<2.5	<2.5	<2.5	<2.5	<5.0
Oct-10	1.3	150	130	1.8	--	5.7	<0.50	0.50	<0.50	<0.50	<1.0	<0.50	1.5	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-09	1.5	150	120	2.8	--	6.3	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	1.1	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-08	0.65	50	82	2.4	--	30	<0.5	<0.5	<0.5	<0.5	<1	<0.5	1.0	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1
Oct-07	1.3	85	50	0.82	--	16	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	0.61	<1.0	<0.5	<1.0	<0.5	<0.5	<0.5	<1.0
Oct-06	1.5	130	33	<1.0	--	5.8	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	NA
Oct-05	2.0	140	68	1.5	--	14	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	NA
Oct-04	<5.0	190	190	<5.0	--	6.9	<5.0	<5.0	<5.0	<5.0	<10	<10	<5.0	<20	<5.0	<5.0	NA	NA	NA	NA
Oct-03	<1.0	51	110	1.2	--	21	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<1.0	<4.0	<1.0	<1.0	NA	NA	NA	NA
Oct-02	2.6	240	200	6.3	--	8.6	<2.0	<2.0	<2.0	<2.0	<4.0	<4.0	3.5	<8.0	<2.0	<2.0	NA	NA	NA	NA
Oct-01	<5.0	170	120	<5.0	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<20	<20	<5.0	<5.0	NA	NA	NA	NA
Oct-00	<20	240	240	<20	--	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	NA	NA	NA	NA
Oct-99	<5.0	270	240	<5.0	--	<5.0	<5.0	<5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	ND	NA	NA	NA	NA
Oct-97+	<5.0	160	520	<5.0	--	<5.0	<5.0	<5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	ND	NA	NA	NA	NA
Oct-96	<1.7	440	540	4.0	--	<1.7	<1.7	2.7	<1.7	ND	ND	ND	2.9	ND	<1.7	ND	NA	NA	NA	NA
Oct-95	<10	1,100	--	--	180	<20	<10	<10	<10	ND	ND	ND	<10	ND	<10	ND	NA	NA	NA	NA
Oct-94	<5.0	910	--	--	190	<5.0	<5.0	<5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	ND	NA	NA	NA	NA
May-88	<25	3,400	--	--	240	<25	<25	<25	<25	NA	ND	NA	95	ND	<25	NA	NA	NA	NA	NA
Jan-88	<50	2,900	--	--	240	<50	<50	<50	<50	NA	ND	NA	<50	ND	<50	NA	NA	NA	NA	NA
Oct-87	<25	2,400	--	--	270	<25	<25	<25	<25	NA	ND	NA	100	ND	<25	NA	NA	NA	NA	NA
Jun-87	260	2,200	--	--	910	<10	13	<10	<10	NA	ND	NA	83	ND	<10	NA	NA	NA	NA	NA
Apr-87	26	2,700	--	--	420	<10	74	<10	<10	NA	ND	NA	91	ND	<10	NA	NA	NA	NA	NA
Jan-87	<10	2,500	--	--	220	<10	<10	<10	<10	NA	ND	NA	180	ND	<10	NA	NA	NA	NA	NA
Sep-86	<25	4,600	--	--	120	<25	<25	<25	<25	NA	ND	NA	150	ND	<25	NA	NA	NA	NA	NA
Jul-86																				

**Historical Groundwater Volatile Organic Compound Results**  
**Former TRW Microwave Site**  
**825 Stewart Drive, Sunnyvale, California**

Well Number/ Dates	PCE (µg/L)	TCE (µg/L)	cis- 1,2-DCE (µg/L)	trans- 1,2-DCE (µg/L)	Total 1,2-DCE (µg/L)	VC (µg/L)	1,1,1- TCA (µg/L)	1,1- DCE (µg/L)	1,1- DCA (µg/L)	CDM (µg/L)	Freon 11 (µg/L)	Freon 12 (µg/L)	Freon 113 (µg/L)	BFM (µg/L)	1,2- DCB (µg/L)	CBN (µg/L)	BEN (µg/L)	EBN (µg/L)	TOL (µg/L)	XYL (µg/L)
Drinking Water Standard	5	5	6	10	6	0.5	200	6	5	100	150	NE	1200	100	600	70	1	300	150	1750
<b>DUCTOR-11 ZA</b>																				
Per United States Environmental Protection Agency approval, the Eductor was abandoned in November 2014.																				
Sep-14	<500	<500	43,000	<500	--	2,900	<500	<500	<500	<500	<1000	<500	<500	<1000	530	<500	NA	NA	NA	NA
Apr-14	<500	<500	20,000	<500	--	1,600	<500	<500	<500	<500	<1000	<500	<500	<1000	<500	<500	<500	<500	<500	<1000
Oct-13	<500	<500	29,000	<500	--	1,800	<500	<500	<500	NA	<1000	<500	<500	<1000	<500	<500	NA	NA	NA	NA
May-13	<1000	1,000	37,000	<1,000	--	2,900	<1000	<1000	<1000	NA	<2000	<1000	<1000	<2000	<1000	<1000	<1000	<1000	<1000	<2000
Oct-12	<1,000	1,200	83,000	<1,000	--	5,200	<1,000	<1,000	<1,000	<1,000	<2,000	<1,000	<1,000	<2,000	2,400	<1,000	<1,000	<1,000	<1,000	<2,000
Apr-12	<50	620	93,000	74	--	6,400	<50	110	<50	<50	<100	<50	<50	<100	880	190	<50	120	<50	430
Oct-11	<50	54	8,000	<50	--	1,100	<50	<50	<50	<50	<100	<50	<50	<100	<50	<50	<50	<50	<50	<100
May-11	<500	3,600	100,000	<500	--	11,000	<500	<500	<500	<500	<500	<500	<500	<500	1,500	<500	<500	<500	<500	<500
Mar-11	<500	1,100	94,000	<500	--	5,900	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500
Nov-10	<500	670	29,000	<500	--	2,700	<500	<500	<500	<500	<1,000	<500	<500	<1,000	1,300	660	NA	NA	NA	NA
Oct-10	<200	2,100	78,000	<200	--	67,000	<200	<200	<200	<200	<400	<200	<200	<400	1,900	6900	<200	<200	<200	<400
Oct-09	<200	<200	34,000	<200	--	9,300	<200	<200	<200	<200	<400	<200	<200	<400	1,600	840	<200	230	<200	<400
Oct-08	<2000	100,000	23,000	<2000	--	28,000	<2000	<2000	<2000	<2000	<4000	<2000	<2000	<4000	3100	5200	<2000	<2000	<2000	<4000
Oct-07	55	3,500	8,300	120	--	15,000	<5.0	30	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	4,200	<5.0	<500	13	1,300
Apr-07	<5.0	5.1	29,000	200	--	28,000	<5.0	57	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	14	<5.0	<200	9.2	960
Oct-06	<100	<100	25,000	<100	--	9,800	<100	<100	<100	NA	<100	<100	NA	<100	NA	2,200	<100	290	<100	880
Apr-06	<5.0	<5.0	20,000	<500	--	8,500	<5.0	37	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	1,500	<5.0	160	5.7	200
Jan-06	150	4,800	2,300	30	--	12,000	<5.0	12	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	3,000	<5.0	<500	9.9	<1500
Oct-05	<250	<250	3,600	<250	--	3,900	<250	<250	<250	NA	<250	<250	NA	<250	NA	1,000	<250	<250	<250	<750
Sep-05	<250	<250	27,000	<250	--	18,000	<250	<250	<250	<250	<250	<500	<250	<250	420	2,900	NA	NA	NA	NA
Jul-05	82	2,200	27,000	150	--	15,000	<5.0	130	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	3,600	<5.0	<500	11	1,200
Jul-05-Dup	92	2,100	27,000	180	--	14,000	<5.0	140	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	3,500	<5.0	<500	11	1,100
Apr-05	23	490	19,000	160	--	33,000	<5.0	57	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	2,900	<5.0	340	8.7	1,180
Apr-05 Dup	23	430	19,000	160	--	35,000	<5.0	66	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	2,800	<5.0	330	9.6	1,180
Jan-05	<0.5	<0.5	4,700	180	--	4,400	<5.0	9.3	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	1,900	<5.0	200	<5.0	650
Oct-04	<5.0	<5.0	<5.0	9.3	--	28	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	1,200	<5.0	120	<5.0	380
Apr-04	<1.0	<1.0	<1.0	7	--	<1.0	<1.0	<1.0	<1.0	NA	<1.0	<1.0	NA	<1.0	NA	<1.0	<1.0	<1.0	<1.0	<1.0
Jan-04	<10	<10	<10	<10	--	<10	<10	<10	<10	NA	<10	<10	NA	<10	NA	<10	<10	<10	<10	<20
Oct-03	14	75	34	9.6	--	560	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	340	<5.0	32	<5.0	113
Oct-03 Dup	20	110	53	12	--	550	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	300	<5.0	39	<5.0	144
Jul-03	870	15,000	3,800	210	--	24,000	<1.0	120	<1.0	NA	<2.0	<2.0	NA	<1.0	NA	97	NA	460	5.9	1,020
Jul-03 Dup	880	32,000	4,000	200	--	27,000	<1.0	120	<1.0	NA	<2.0	<2.0	NA	<1.0	NA	98	NA	490	7.2	1,030
Apr-03	<1.0	11	570	12	--	4,500	<1.0	1.2	<1.0	NA	<2.0	<2.0	NA	<1.0	NA	130	NA	35	1.9	63
Apr-03 Dup	<1.0	7.6	790	12	--	5,500	1.4	1.8	<1.0	NA	<2.0	<2.0	NA	<1.0	NA	110	NA	46	1.8	56
Jan-03	21	670	9,400	34	--	5,700	7.2	27	<1.0	<1.0	<2.0	<2.0	<1.0	<1.0	<1.0	60	NA	NA	NA	NA
Jan-03 Dup	32	1,200	9,600	28	--	5,600	2.9	24	1.3	<1.0	<2.0	<2.0	<1.0	<1.0	<1.0	62	NA	NA	NA	NA
Oct-02	120	17,000	20,000	38	--	21,000	<1.0	32	<1.0	NA	<2.0	<2.0	NA	<1.0	NA	40	2.9	62	4.0	249
Jul-02	62	2,600	6,400	30	--	2,400	<1.0	19	<1.0	NA	<2.0	<2.0	NA	ND	NA	13	NA	<50	<50	<100
Mar-02	170	3,800	8,000	<50	--	540	<50	NA	<50	NA	<50	<50	NA	ND	NA	<50	NA	<50	<50	<100
Jan-02	1,400	80,000	17,000	110	--	1,200	<50	<50	<50	NA	<50	<50	NA	ND	NA	400	NA	<50	<50	1,170
Nov-01	150	5,000	5,600	48	--	750	<5.0	8.0	<5.0	NA	<5.0	<5.0	NA	ND	NA	11	<5.0	42	<5.0	169
Oct-01	1,200	53,000	18,000	<1,000	--	<2,000	<1,000	<1,000	<1,000	NA	<2,000	<2,000	NA	<1,000	NA	<1,000	NA	<1,000	<1,000	<2,000
Aug-01	140	5,100	7,700	44	--	710	1.2	43	<1.0	NA	<2.0	<2.0	NA	ND	NA	39	NA	36	<1.0	100
Jun-01	7.9	230	15,000	140	--	6,100	15	66	3.3	NA	5.6	<2.0	NA	ND	NA	72	NA	63	3.8	97
Mar-01	19	310	14,000	110	--	1,500	12	2.0	35	NA	<2.0	<2.0	NA	ND	NA	20	NA	13	<1.0	179
Oct-00	<400	8,400	680	<400	--	<400	<400	<400	<400	<400	ND	ND	<400	ND	<400	<400	NA	NA	NA	NA
Oct-99	470	13,000	650	<250	--	<250	<250	<250	<250	ND	ND	ND	<250	ND	<250	<250	NA	NA	NA	NA
Apr-99	<1,000	11,000	<1,000	<1,000	--	<1,000	<1,000	<1,000	<1,000	ND	ND	ND	<1,000	ND	<1,000	<1,000	NA	NA	NA	NA
Oct-98	<500	17,000	740	<500	--	<500	<500	<500	<500	ND	ND	ND	<500	ND	<500	<500	NA	NA	NA	NA
Apr-98	520	20,000	810	<100	--	<100	<100	<100	<100	ND	ND	ND	<400	ND	<100	<100	NA	NA	NA	NA
Oct-97	<500	16,000	<500	<500	--	<500	<500	<500	<500	ND	ND	ND	<500	ND	<1000	<500	NA	NA	NA	NA
Apr-97	120	6,700	450	<31	--	<31	<31	<31	<31	ND	ND	ND	<31	ND	<31	ND	NA	NA	NA	NA
Oct-96	140	9,800	1,100	<50	--	<50	<50	<50	<50	ND	ND	ND	<50	ND	<50	ND	NA	NA	NA	NA
Apr-96	440	23,000	--	--	1,106	100	<5.0	6.7	<5.0	ND	ND	ND	<5.0	ND	370	ND	NA	NA	NA	NA
Oct-95	670	46,000	--	--	1,100	<500	<250	<250	<250	ND	ND	ND	<250	ND	380	ND	NA	NA	NA	NA
Apr-95	<200	13,000	--	--	690	<400	<200	200	200											

**Historical Groundwater Volatile Organic Compound Results  
Former TRW Microwave Site  
825 Stewart Drive, Sunnyvale, California**

Well Number/ Dates	PCE (µg/L)	TCE (µg/L)	cis- 1,2-DCE (µg/L)	trans- 1,2-DCE (µg/L)	Total 1,2-DCE (µg/L)	VC (µg/L)	1,1,1- TCA (µg/L)	1,1- DCE (µg/L)	1,1- DCA (µg/L)	CDM (µg/L)	Freon 11 (µg/L)	Freon 12 (µg/L)	Freon 113 (µg/L)	BFM (µg/L)	1,2- DCB (µg/L)	CBN (µg/L)	BEN (µg/L)	EBN (µg/L)	TOL (µg/L)	XYL (µg/L)
Drinking Water Standard	5	5	6	10	6	0.5	200	6	5	100	150	NE	1200	100	600	70	1	300	150	1750
<b>T-1B ZB1</b>																				
Per Water Board approval, well 1B was abandoned in February 2004.																				
Oct-02 Dup	<0.5	<0.5	1.7	0.76	--	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<0.5	<2.0	<0.5	<0.5	NA	NA	NA	NA
Oct-02	<0.5	<0.5	1.8	0.79	--	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<0.5	<2.0	<0.5	<0.5	NA	NA	NA	NA
Oct-01	<0.5	<0.5	1.4	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<2.0	<2.0	<0.5	<0.5	NA	NA	NA	NA
Oct-00	<1.0	<1.0	1.5	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	ND	ND	<1.0	ND	<1.0	<1.0	NA	NA	NA	NA
Oct-99	<1.0	<1.0	1.4	<1.0	--	<1.0	<1.0	<1.0	<1.0	ND	ND	ND	<1.0	ND	<1.0	ND	NA	NA	NA	NA
Oct-98	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	ND	ND	ND	<1.0	ND	<1.0	ND	NA	NA	NA	NA
Oct-97	<0.5	<0.5	1.3	<0.5	--	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<1.0	ND	NA	NA	NA	NA
Oct-96	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Oct-95	<1.0	<1.0	--	--	<1.0	<2.0	<1.0	<1.0	<1.0	ND	ND	ND	<1.0	ND	<1.0	ND	NA	NA	NA	NA
Oct-94	<0.5	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Oct-93	<0.5	<0.5	--	--	0.7	<1.0	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Oct-92	<0.5	<0.5	--	--	<0.5	<1.0	<0.5	<0.5	<0.5	ND	ND	ND	NA	ND	<0.5	ND	NA	NA	NA	NA
Apr-92	<0.5	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Jan-92	<0.5	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Oct-91	<0.5	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Jul-91	<0.5	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Apr-91	<0.5	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Jan-91	<0.5	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Oct-90	<0.5	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Jul-90	<0.5	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Apr-90	<0.5	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Jan-90	<0.5	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Oct-89	<0.5	5	--	--	1.4	<0.5	<0.5	<0.5	<0.5	NA	ND	NA	<0.5	ND	<0.5	NA	NA	NA	NA	NA
Aug-89	<0.5	<0.5	--	--	0.6	<0.5	<0.5	<0.5	<0.5	NA	ND	NA	<0.5	ND	<0.5	NA	NA	NA	NA	NA
May-89	<0.5	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	NA	ND	NA	<0.5	ND	<0.5	NA	NA	NA	NA	NA
Feb-89	<0.5	<0.5	--	--	0.6	<0.5	<0.5	<0.5	<0.5	NA	ND	NA	<0.5	ND	<0.5	NA	NA	NA	NA	NA
Nov-88	<0.5	<0.5	--	--	1.4	<0.5	<0.5	<0.5	<0.5	NA	ND	NA	<0.5	ND	<0.5	NA	NA	NA	NA	NA
Aug-88	<0.5	<0.5	--	--	1.6	<0.5	<0.5	<0.5	<0.5	NA	ND	NA	<0.5	ND	<0.5	NA	NA	NA	NA	NA
May-88	<0.5	<0.5	--	--	1.3	<0.5	<0.5	<0.5	<0.5	NA	ND	NA	<0.5	ND	<0.5	NA	NA	NA	NA	NA
Jan-88	<0.5	<0.5	--	--	0.7	<0.5	<0.5	<0.5	<0.5	NA	ND	NA	<0.5	ND	<0.5	NA	NA	NA	NA	NA
Oct-87	<0.5	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	NA	ND	NA	<0.5	ND	<0.5	NA	NA	NA	NA	NA
Jun-87	<0.5	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	NA	ND	NA	<0.5	ND	<0.5	NA	NA	NA	NA	NA
Apr-87	<0.5	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	NA	ND	NA	<0.5	ND	<0.5	NA	NA	NA	NA	NA
Jan-87	<0.5	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	NA	ND	NA	<0.5	ND	<0.5	NA	NA	NA	NA	NA
Sep-86	<0.5	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	NA	ND	NA	<0.5	ND	<0.5	NA	NA	NA	NA	NA
Jul-86	<0.5	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	NA	ND	NA	<0.5	ND	<0.5	NA	NA	NA	NA	NA
Apr-86	<0.5	1	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	NA	ND	NA	<0.5	ND	<0.5	NA	NA	NA	NA	NA
Jan-86	<0.5	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	NA	ND	NA	NA	ND	<0.5	NA	NA	NA	NA	NA
Oct-85	<0.5	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	NA	ND	NA	<0.5	ND	<0.5	NA	NA	NA	NA	NA
Nov-84	<0.5	<0.5	--	--	NA	NA	<0.5	NA	NA	NA	ND	NA	NA	ND	NA	NA	NA	NA	NA	NA
Aug-84	ND	ND	--	--	ND	ND	ND	ND	ND	NA	ND	NA	ND	ND	ND	NA	NA	NA	NA	NA
Mar-84	NA	<.5	--	--	NA	NA	NA	NA	NA	NA	ND	NA	NA	ND	ND	NA	NA	NA	NA	NA
Aug-83	<1.0	<1.0	--	--	<1	<1.0	<1.0	<1.0	<1.0	NA	ND	NA	<1.0	ND	<1.0	NA	NA	NA	NA	NA

**Historical Groundwater Volatile Organic Compound Results**  
**Former TRW Microwave Site**  
**825 Stewart Drive, Sunnyvale, California**

Well Number/ Dates	PCE (µg/L)	TCE (µg/L)	cis- 1,2-DCE (µg/L)	trans- 1,2-DCE (µg/L)	Total 1,2-DCE (µg/L)	VC (µg/L)	1,1,1- TCA (µg/L)	1,1- DCE (µg/L)	1,1- DCA (µg/L)	CDM (µg/L)	Freon 11 (µg/L)	Freon 12 (µg/L)	Freon 113 (µg/L)	BFM (µg/L)	1,2- DCB (µg/L)	CBN (µg/L)	BEN (µg/L)	EBN (µg/L)	TOL (µg/L)	XYL (µg/L)
Drinking Water Standard	5	5	6	10	6	0.5	200	6	5	100	150	NE	1200	100	600	70	1	300	150	1750
<b>T-2B ZB1</b>																				
Per United States Environmental Protection Agency approval, well T-2B was abandoned in November 2014.																				
Sep-14	<2.5	<2.5	26	<2.5	--	60	<2.5	<2.5	<2.5	<2.5	<5.0	<2.5	<2.5	<5.0	9.3	28	NA	NA	NA	NA
Apr-14	<2.5	<2.5	12	<2.5	--	40	<2.5	<2.5	<2.5	<2.5	<5.0	<2.5	<2.5	<5.0	16	58	<2.5	<2.5	<2.5	<5.0
Oct-13	<0.50	<2.5	140	1.6	--	150	<0.50	<0.50	1.0	NA	<1.0	<0.50	<0.50	<1.0	10	12	NA	NA	NA	NA
May-13	<0.50	0.76	80	6.3	--	77	<0.50	<0.50	0.76	NA	<1.0	<0.50	<0.50	<1.0	6.7	11	<0.50	<0.50	<0.50	<1.0
Oct-12	<0.50	0.65	83	2.5	--	100	<0.50	<0.50	0.77	<0.50	<1.0	<0.50	<0.50	<1.0	5.7	14	<0.50	<0.50	<0.50	<1.0
Apr-12	<0.50	<0.50	38	1.0	--	34	<0.50	<0.50	0.53	<0.50	<1.0	<0.50	<0.50	<1.0	6.5	25	<0.50	<0.50	<0.50	<1.0
Oct-11	<0.50	0.72	79	2.1	--	140	<0.50	<0.50	0.72	<0.50	<1.0	<0.50	<0.50	<1.0	7.1	19	<0.50	<0.50	<0.50	1.5
May-11	<0.50	0.59	40	<0.50	--	82	<0.50	<0.50	0.69	<0.50	<0.50	<0.50	<0.50	<0.50	7.5	22	<0.50	<0.50	<0.50	<0.50
Mar-11	<0.50	0.52	9.4	<0.50	--	46	<0.50	<0.50	0.7	<0.50	<0.50	<0.50	<0.50	<0.50	8.6	57	<0.50	<0.50	<0.50	3.2
Nov-10	<2.5	2.5	160	<2.5	--	290	<2.5	<2.5	<2.5	<2.5	<5.0	<2.5	<2.5	<5.0	23	39	NA	NA	NA	NA
Oct-10	<2.5	<2.5	200	<2.5	--	260	<2.5	<2.5	<2.5	<2.5	<5.0	<2.5	<2.5	<5.0	6.4	17	<2.5	<2.5	<2.5	<5.0
Oct-09	<20	<20	6,600	29	--	3,600	<20	<20	<20	<20	<40	<20	<20	<40	39	230	<20	<20	<20	<40
Oct-08	<2	<2	88	6	--	210	<2	<2	<2	<2	<4	<2	<2	<4	5.2	4.1	<2	<2	<2	<4
Oct-07	<5.0	<5.0	11	7.8	--	270	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	23	<5.0	<5.0	<5.0	<15
Apr-07	<5.0	<5.0	<5.0	<5.0	--	92	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	31	<5.0	<5.0	<5.0	<15
Oct-06	<5.0	<5.0	<5.0	8.2	--	47	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	49	<5.0	<5.0	<5.0	<15
Apr-06	<5.0	<5.0	5.9	11	--	24	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	49	<5.0	<5.0	<5.0	<15
Jan-06	<5.0	<5.0	<5.0	7.0	--	22	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	67	<5.0	<5.0	<5.0	<15
Oct-05	<5.0	<5.0	6.2	<5.0	--	48	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	73	<5.0	<5.0	<5.0	<15
Jul-05	<5.0	5.1	<5.0	<5.0	--	16	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	94	<5.0	<5.0	<5.0	<15
Apr-05	<5.0	<5.0	43	<5.0	--	360	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	130	<5.0	<5.0	<5.0	<15
Jan-05	<5.0	<5.0	<5.0	<5.0	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	72	<5.0	<5.0	<5.0	<15
Oct-04	<5.0	<5.0	<5.0	<5.0	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	63	<5.0	<5.0	<5.0	<15
Apr-04	<1.0	<1.0	3.3	<1.0	--	5.4	<1.0	<1.0	<1.0	NA	<1.0	<1.0	NA	<1.0	NA	<1.0	<1.0	<1.0	<1.0	<1.0
Jan-04	<5.0	<5.0	<5.0	<5.0	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<5.0
Oct-03	<5.0	<5.0	5.2	<5.0	--	9.1	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	88	<5.0	<5.0	<5.0	<10
Jul-03	<1.0	2.6	2.8	<1.0	--	5.0	<1.0	<1.0	<1.0	NA	<2.0	<2.0	NA	<1.0	NA	71	NA	90	<1.0	4.1
Apr-03	<1.0	28	7.6	<1.0	--	41	<1.0	<1.0	<1.0	NA	<2.0	<2.0	NA	<1.0	NA	60	NA	7.8	<1.0	2.1
Jan-03	<1.0	33	30	<1.0	--	14	<1.0	<1.0	<1.0	NA	<2.0	<2.0	NA	<1.0	NA	66	NA	NA	NA	NA
Oct-02	<1.0	54	46	<1.0	--	170	<1.0	2.5	<1.0	NA	<2.0	<2.0	NA	<1.0	NA	66	2.0	<1.0	1.8	<2.0
Jul-02	<1.0	<1.0	90	<1.0	--	150	<1.0	<1.0	<1.0	NA	<2.0	<2.0	NA	ND	NA	67	NA	<1.0	<1.0	<2.0
Apr-02	2.7	24	210	6.2	--	190	<1.0	<1.0	<1.0	NA	<2.0	<2.0	NA	ND	NA	5.9	NA	<1.0	<1.0	<2.0
Jan-02	<10	18	67	<10	--	210	<10	<10	<10	NA	<20	<20	NA	ND	NA	78	NA	<10	11	<20
Oct-01	<50	940	250	180	--	540	<50	<50	<50	NA	<100	<100	NA	<50	NA	<50	NA	90	<50	<100
Oct-01 Dup	<50	580	140	<50	--	700	<50	<50	<50	NA	<100	<100	NA	90	NA	<50	NA	120	<50	<100
Aug-01	2.5	77	680	12	--	800	<1.0	2.5	<1.0	NA	<2.0	<2.0	NA	ND	NA	20	NA	<1.0	<1.0	<2.0
Jun-01	<1.0	5.8	1,500	16	--	1,400	2.6	5.5	1.7	NA	3.1	<2.0	NA	ND	NA	1.7	NA	<1.0	<1.0	<2.0
Apr-01	1.6	14	440	8.7	--	980	<1.0	1.2	<1.0	NA	<2.0	<2.0	NA	ND	NA	2.6	NA	<1.0	<1.0	<2.0
Feb-01	23	31	880	12	--	1,300	<1.0	3.5	<1.0	NA	<2.0	<2.0	NA	ND	NA	1.6	NA	<1.0	<1.0	8.5
Dec-00	<1.0	2.9	53	9.3	--	1,000	<1.0	<1.0	<1.0	NA	<2.0	<2.0	NA	ND	NA	1.6	NA	<1.0	<1.0	<2.0
Nov-00	<1.0	11	2,300	15	--	300	<1.0	9.5	1.2	NA	<2.0	<2.0	NA	ND	NA	2.0	NA	<1.0	<1.0	<2.0
Oct-00	110	520	2,200	<50	--	340	<50	<50	<50	NA	ND	ND	NA	ND	NA	1.4	NA	<1.0	<1.0	<2.0
Oct-99	55	430	800	<10	--	35	<10	<10	<10	ND	ND	ND	<10	ND	<10	NA	NA	NA	NA	NA
Oct-98	81	720	1,000	<25	--	110	<25	<25	<25	ND	ND	ND	<25	ND	<25	<25	NA	NA	NA	NA
Apr-98	100	670	1,700	<20	--	300	<20	<20	<20	ND	ND	ND	<80	ND	<20	<20	NA	NA	NA	NA
Oct-97	220	820	3,000	<50	--	200	<50	<50	<50	ND	ND	ND	<50	ND	<100	<50	NA	NA	NA	NA
Oct-97 Dup	220	810	2,800	<50	--	170	<50	<50	<50	ND	ND	ND	<50	ND	<100	ND	NA	NA	NA	NA
Apr-97	170	690	1,400	14	--	230	<13	<13	<13	ND	ND	ND	<13	ND	24	ND	NA	NA	NA	NA
Oct-96	200	880	3,000	21	--	190	<10	19	<10	ND	ND	ND	<10	ND	15	ND	NA	NA	NA	NA
Apr-96	300	1,500	--	--	1,313	230	<2.5	13	<2.5	ND	ND	ND	<2.5	ND	4.9	ND	NA	NA	NA	NA
Oct-95	180	840	--	--	1,400	130	<25	<25	<25	ND	ND	ND	<25	ND	<25	ND	NA	NA	NA	NA
Aug-95	<40	770	--	--	2,500	540	<40	<40	<40	ND	ND	ND	<40	ND	<40	ND	NA	NA	NA	NA
Oct-94	<25	590	--	--	150	<25	<25	<25	<25	ND	ND	ND	<25	ND	<25	ND	NA	NA	NA	NA
Apr-94	330	1,500	--	--	3,134	<5	7	32	<5.0	ND	ND	ND	1.1	ND	35	ND	NA	NA	NA	NA
Oct-93	300	2,600	--	--	7,322	640	<5.0	23	<5.0	ND	ND	ND	<5.0	ND	42	ND	NA	NA	NA	NA
Apr-93	530	3,700	--	--	6,600	2,300	<50	<50	<50	ND	ND	ND	<50	ND	<50	ND	NA	NA	NA	NA
Oct-92	1,900	7,400	--	--	7,533	1,400	4.8	40	6.8	ND	ND	ND	NA	ND	<500	ND	NA	NA	NA	NA
Aug-92	1,200	5,100	--	--	7,336	1,100	6.5													

**Historical Groundwater Volatile Organic Compound Results**  
**Former TRW Microwave Site**  
**825 Stewart Drive, Sunnyvale, California**

Well Number/ Dates	PCE (µg/L)	TCE (µg/L)	cis- 1,2-DCE (µg/L)	trans- 1,2-DCE (µg/L)	Total 1,2-DCE (µg/L)	VC (µg/L)	1,1,1- TCA (µg/L)	1,1- DCE (µg/L)	1,1- DCA (µg/L)	CDM (µg/L)	Freon 11 (µg/L)	Freon 12 (µg/L)	Freon 113 (µg/L)	BFM (µg/L)	1,2- DCB (µg/L)	CBN (µg/L)	BEN (µg/L)	EBN (µg/L)	TOL (µg/L)	XYL (µg/L)
Drinking Water Standard	5	5	6	10	6	0.5	200	6	5	100	150	NE	1200	100	600	70	1	300	150	1750
<b>T-2B (continued)</b>																				
Oct-87	330	2,000	--	--	3,300	860	59	<25	<25	NA	ND	NA	<25	ND	71	NA	NA	NA	NA	NA
Jul-87	490	2,100	--	--	5,400	730	<50	<50	<50	NA	ND	NA	100	ND	<50	NA	NA	NA	NA	NA
Jan-87	800	9,100	--	--	7,000	1,100	<25	<25	<25	NA	ND	NA	<25	ND	710	NA	NA	NA	NA	NA
Jul-86	1,200	3,800	--	--	2,800	1,400	<10	<10	<10	NA	ND	NA	<10	ND	860	NA	NA	NA	NA	NA
Apr-86	580	4,000	--	--	3,600	180	<50	<50	<50	NA	ND	NA	<50	ND	<50	NA	NA	NA	NA	NA
Mar-86	1,300	5,500	--	--	3,300	750	<25	<25	<25	NA	ND	NA	NA	ND	<25	NA	NA	NA	NA	NA
Oct-85	2,700	7,500	--	--	7,700	<50	<50	<50	<50	NA	ND	NA	840	ND	<50	NA	NA	NA	NA	NA
Nov-84	2,300	52,000	--	--	7,200	NA	<130	NA	NA	NA	ND	NA	NA	ND	NA	NA	NA	NA	NA	NA
Aug-84	1,500	11,000	--	--	650	ND	ND	ND	ND	NA	ND	NA	ND	ND	ND	NA	NA	NA	NA	NA
Mar-84	NA	130,000	--	--	NA	NA	NA	NA	NA	NA	ND	NA	NA	ND	NA	NA	NA	NA	NA	NA
Sep-83	2,000	73,000	--	--	2,000	NA	ND	ND	ND	NA	ND	NA	ND	ND	NA	NA	NA	NA	NA	NA
Sep-83	2,000	290,000	--	--	2,000	NA	ND	ND	ND	NA	ND	NA	ND	ND	NA	NA	NA	NA	NA	NA
Aug-83	2,800	1,100,000	--	--	160	<5.0	<5.0	<5.0	<5.0	NA	ND	NA	<5.0	ND	<5.0	NA	NA	NA	NA	NA
<b>T-4B ZB1</b>																				
Oct-17	<0.50	5.2	650	2.7	--	0.62	<0.50	2.2	<0.50	--	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	--	--	--	--
Oct-16	<1.0	4	94	<1.0	--	<1.0	<1.0	<1.0	<1.0	NA	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	NA	NA	NA	NA
May-16	<0.50	3.6	480	3.0	--	<0.50	<0.50	1.0	<0.50	NA	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	NA	NA	NA	NA
Oct-15	<0.50	4	120	0.97	--	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	NA	NA	NA	NA
Jun-15	<0.50	5	130	<0.50	--	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	NA	NA	NA	NA
Oct-14	<5.0	5.2	500	<5.0	--	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<5.0	NA	NA	NA	NA
Oct-13	<5.0	9.2	830	1.4 J	--	<5.0	<5.0	<5.0	<5.0	NA	<10	<5.0	<5.0	<10	<5.0	<5.0	NA	NA	NA	NA
Oct-12	<5.0	8.4	600	17	--	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<10
Oct-11	<5.0	5.6	570	5.1	--	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<10
Oct-10	<0.50	3.7	360	10	--	<0.50	<0.50	1.2	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-09	<0.50	2.5	370	2.2	--	<0.50	<0.50	1.1	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	1.4	<0.50	<0.50	<1.0
Oct-08	<5	5.3	500	<5	--	<5	<5	<5	<5	<5	<10	<5	<5	<10	<5	<5	<5	<5	<5	<10
Oct-07	<5.0	7.9	550	<5.0	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jul-07	<5.0	5.7	430	<5.0	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
May-07	<5.0	7.3	230	<5.0	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Oct-06	<5.0	<5.0	580	<5.0	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Apr-06	<5.0	7.9	480	12	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jan-06	<5.0	8.4	600	<5.0	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Oct-05	<5.0	9.2	550	<5.0	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jul-05	<5.0	10	620	<5.0	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Apr-05	<5.0	110	69	<5.0	--	12	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jan-05	<5.0	9.0	810	20	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Oct-04	<5.0	6.6	350	<5.0	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jul-04	<5.0	8.5	460	5.8	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<10
Apr-04	<1.0	13	540	6.3	--	<1.0	<1.0	<1.0	1.6	NA	<2.0	6.3	NA	<1.0	NA	<1.0	NA	<1.0	<1.0	<2.0
Jan-04	<12	6.4	350	<12	--	<12	<12	<12	<12	NA	<12	<12	NA	<12	NA	<12	<12	<12	<12	<24
Oct-03	<5.0	9.8	340	<5.0	--	7.4	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<10
Jul-03	<1.0	13	<20	3.1	--	<2.0	<1.0	<1.0	<1.0	NA	<2.0	<2.0	NA	<1.0	NA	<1.0	NA	<1.0	<1.0	<2.0
Apr-03	<1.0	11	350	<1.0	--	<2.0	<1.0	<1.0	<1.0	NA	<2.0	<2.0	NA	<1.0	NA	<1.0	NA	<1.0	<1.0	<2.0
Oct-02	<5.0	5.8	220	<5.0	--	5.7	<5.0	<5.0	<5.0	<5.0	<10	<10	<5.0	<20	<5.0	<5.0	NA	NA	NA	NA
Oct-01	<5.0	<5.0	66	12	--	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<10	<20	<20	<5.0	<5.0	NA	NA	NA	NA
Oct-00	<2.0	10	100	<2.0	--	<2.0	<2.0	<2.0	<2.0	<2.0	ND	ND	<2.0	ND	<2.0	<2.0	NA	NA	NA	NA
Oct-00 Dup	<2.0	9.0	100	<2.0	--	<2.0	<2.0	<2.0	<2.0	<2.0	ND	ND	<2.0	ND	<2.0	<2.0	NA	NA	NA	NA
Oct-99	<1.0	32	32	<1.0	--	<1.0	<1.0	<1.0	<1.0	ND	ND	ND	1.6	ND	<1.0	ND	NA	NA	NA	NA
Oct-98	<1.0	43	40	<1.0	--	<1.0	<1.0	<1.0	<1.0	ND	ND	ND	1.8	ND	<1.0	ND	NA	NA	NA	NA
Oct-97	<1.0	30	38	<1.0	--	<1.0	<1.0	<1.0	<1.0	ND	ND	ND	2.0	ND	<2.0	ND	NA	NA	NA	NA
Oct-96	<0.5	28	17	<0.5	--	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	1.7	ND	<0.5	ND	NA	NA	NA	NA
Oct-95	<1.0	30	--	--	22	<2.0	<1.0	<1.0	<1.0	ND	ND	ND	2.4	ND	<1.0	ND	NA	NA	NA	NA
Oct-94	<5.0	53	--	--	23	<5.0	<5.0	<5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	ND	NA	NA	NA	NA
Oct-93	<0.5	100	--	--	8.5	<1.0	<0.5	<0.5	<0.5	ND	ND	ND	2.6	ND	<0.5	ND	NA	NA	NA	NA
Oct-92	<0.5	61	--	--	4.3	<1.0	<0.5	<0.5	<0.5	ND	ND	ND	NA	ND	<0.5	ND	NA	NA	NA	NA
Oct-91	<0.5	75	--	--	13	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	3.6	ND	<0.5	ND	NA	NA	NA	NA
Oct-90	<0.5	75	--	--	14	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	1.8	ND	<0.5	ND	NA	NA	NA	NA
Aug-89	<0.5	57	--	--	3	<0.5	<0.5	<0.5	<0.5	NA	ND	NA	1.8		<0.5	NA	NA	NA	NA	NA
May-88	<0.5	9	--	--	0.7	<0.5	<0.5	<0.5	<0.5	NA	ND	NA	0.5		<0.5	NA	NA	NA	NA	NA
Jan-88	<0.5	14	--	--	0.6	<0.5	<0.5	<0.5	<0.5	NA	ND	NA	0.6							

**Historical Groundwater Volatile Organic Compound Results**  
**Former TRW Microwave Site**  
**825 Stewart Drive, Sunnyvale, California**

Well Number/ Dates	PCE (µg/L)	TCE (µg/L)	cis- 1,2-DCE (µg/L)	trans- 1,2-DCE (µg/L)	Total 1,2-DCE (µg/L)	VC (µg/L)	1,1,1- TCA (µg/L)	1,1- DCE (µg/L)	1,1- DCA (µg/L)	CDM (µg/L)	Freon 11 (µg/L)	Freon 12 (µg/L)	Freon 113 (µg/L)	BFM (µg/L)	1,2- DCB (µg/L)	CBN (µg/L)	BEN (µg/L)	EBN (µg/L)	TOL (µg/L)	XYL (µg/L)
Drinking Water Standard	5	5	6	10	6	0.5	200	6	5	100	150	NE	1200	100	600	70	1	300	150	1750
<b>T-5B ZB1</b>																				
Oct-17 Dup	<25	1500	54	<25	--	<25	<25	<25	<25	--	<50	<25	160	<50	<25	<25	NA	NA	NA	NA
Oct-17	<50	1500	54	<50	--	<50	<50	<50	<50	--	<100	<50	170	<100	<50	<50	NA	NA	NA	NA
Oct-16	<2.5	170	8.8	<2.5	--	<2.5	<2.5	<2.5	<2.5	<2.5	<5.0	<2.5	6.1	<5.0	<2.5	<2.5	NA	NA	NA	NA
Oct-16 Dup	<2.5	130	7.3	<2.5	--	<2.5	<2.5	<2.5	<2.5	<2.5	<5.0	<2.5	5.3	<5.0	<2.5	<2.5	NA	NA	NA	NA
Oct-15	3.7	1,700	62	1.1	--	<0.50	<0.50	1.2	<0.50	<0.50	<1.0	<0.50	120	<1.0	<0.50	1	NA	NA	NA	NA
Oct-15 Dup	3.9	1,800	62	1.2	--	<0.50	<0.50	1.3	<0.50	<0.50	<1.0	<0.50	130	<1.0	<0.50	1	NA	NA	NA	NA
Oct-14	<10	1,500	58	<10	--	<10	<10	<10	<10	<10	<20	<10	140	<20	<10	<10	NA	NA	NA	NA
Oct-14 Dup	<25	1,600	64	<25	--	<25	<25	<25	<25	<25	<50	<25	160	<50	<25	<25	NA	NA	NA	NA
Oct-13	4.5 J	1,500	51	<10	--	<10	<10	<10	<10		<20	<10	150	<20	<10	<10	NA	NA	NA	NA
Oct-13 Dup	4.8 J	1,400	73	1.8 J	--	<5.0	<5.0	2.3 J	<5.0		<10	<5.0	190	<10	<5.0	<5.0	NA	NA	NA	NA
Oct-12	<10	1,600	70/71	--	--	<10	<10	<10	<10	<10	<20	<10	170/180	<20	<10	<10	<10	<10	<10	<20
Oct-11 Dup	<25	1,700	58	<25	--	<25	<25	<25	<25	<25	<25	200	200	<25	<25	<25	<25	<25	<25	<50
Oct-11	<10	1,700	58	<10	--	<10	<10	<10	<10	<10	<10	200	200	<10	<10	<10	<10	<10	<10	<20
Oct-10 Dup	3.5	1,200	49	1.2	--	<0.50	<0.50	1.2	0.59	<0.50	<1.0	<0.50	96	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-10	3.3	1,200	51	1.2	--	<0.50	<0.50	1.2	0.57	<0.50	<1.0	<0.50	89	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-09 Dup	1.3	390	12	<0.50	--	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	45	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-09	1.5	380	14	<0.50	--	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-08 Dup	<20	2,200	39	<20	--	<20	<20	<20	<20	<20	<40	<20	540	<40	<20	<20	<20	<20	<20	<40
Oct-08	<20	2,300	39	<20	--	<20	<20	<20	<20	<20	<40	<20	550	<40	<20	<20	<20	<20	<20	<40
Oct-07	6.2	2,300	46	<2.0	--	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0	<2.0	470	<4.0	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0
Oct-07 Dup	5.9	2,200	45	<2.0	--	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0	<2.0	380	<4.0	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0
Oct-06	<2.0	270	5.9	<2.0	--	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0	<2.0	18	<4.0	<2.0	<2.0	NA	NA	NA	NA
Oct-06 Dup	<2.0	270	6.1	<2.0	--	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0	<2.0	20	<4.0	<2.0	<2.0	NA	NA	NA	NA
Oct-05	<5.0	420	12	<5.0	--	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	44	<5.0	<5.0	<5.0	NA	NA	NA	NA
Oct-05 Dup	<5.0	410	12	<5.0	--	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	40	<5.0	<5.0	<5.0	NA	NA	NA	NA
Oct-04	<5.0	720	21	<5.0	--	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<10	49	<20	<5.0	<5.0	NA	NA	NA	NA
Oct-04 Dup	<5.0	760	21	<5.0	--	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<10	63	<20	<5.0	<5.0	NA	NA	NA	NA
Oct-03	<10	720	18	<10	--	<10	<10	<10	<10	<10	<20	<20	31	<40	<10	<10	NA	NA	NA	NA
Oct-03 Dup	<10	1,200	29	<10	--	<10	<10	<10	<10	<10	<20	<20	60	<40	<10	<10	NA	NA	NA	NA
Oct-02	30	2,200	55	<20	--	<20	<20	<20	<20	<20	<40	<40	450	<80	<20	<20	NA	NA	NA	NA
Oct-02 Dup	<20	2,100	52	<20	--	<20	<20	<20	<20	<20	<40	<40	410	<80	<20	<20	NA	NA	NA	NA
Oct-01	<50	1,700	88	<50	--	<50	<50	<50	<50	<50	<50	<100	<200	<200	<50	<50	NA	NA	NA	NA
Oct-01 Dup	<50	1,900	91	<50	--	<50	<50	<50	<50	<50	<50	<100	<200	<200	<50	<50	NA	NA	NA	NA
Oct-00	<200	2,400	<200	<200	--	<200	<200	<200	<200	<200	ND	ND	260	ND	<200	<200	NA	NA	NA	NA
Oct-99	<10	500	16	<10	--	<10	<10	<10	<10	ND	ND	ND	63	ND	<10	ND	NA	NA	NA	NA
Oct-98	<10	300	<10	<10	--	<10	<10	<10	<10	ND	ND	ND	15	ND	<10	ND	NA	NA	NA	NA
Oct-97	<10	360	<10	<10	--	<10	<10	<10	<10	ND	ND	ND	<10	ND	<20	ND	NA	NA	NA	NA
Oct-96	<1.3	390	8.2	<1.3	--	<1.3	<1.3	<1.3	<1.3	ND	ND	ND	34	ND	<1.3	ND	NA	NA	NA	NA
Oct-95	<1.0	110	--	--	1.6	<2.0	<1.0	<1.0	<1.0	ND	ND	ND	4.9	ND	<1.0	ND	NA	NA	NA	NA
Oct-94	<25	420	--	--	<25	<25	<25	<25	<25	ND	ND	ND	41	ND	<25	ND	NA	NA	NA	NA
Oct-93	<5.0	500	--	--	<5.0	<10	<5.0	<5.0	<5.0	ND	ND	ND	54	ND	<5.0	ND	NA	NA	NA	NA
Oct-92	<1000	3,600	--	--	33	<1.0	2.2	<0.5	10	ND	ND	ND	NA	ND	<0.5	ND	NA	NA	NA	NA
Oct-92	<150	4,000	--	--	<150	<150	<150	<150	<150	ND	ND	ND	640	ND	<150	ND	NA	NA	NA	NA
Apr-92	<100	11,000	--	--	<100	<100	<100	<100	<100	ND	ND	ND	2,400	ND	<100	ND	NA	NA	NA	NA
Jan-92	<100	16,000	--	--	<100	<100	<100	<100	<100	ND	ND	ND	2,800	ND	<100	ND	NA	NA	NA	NA
Oct-91	<100	12,000	--	--	<100	<100	<100	<100	<100	ND	ND	ND	1,900	ND	<100	ND	NA	NA	NA	NA
Jul-91	<50	9,300	--	--	60	<50	<50	<50	<50	ND	ND	ND	2,200	ND	<50	ND	NA	NA	NA	NA
Apr-91	<20	5,700	--	--	30	<20	<20	<20	<20	ND	ND	ND	1,600	ND	<20	ND	NA	NA	NA	NA
Jan-91	<20	2,500	--	--	<20	<20	<20	<20	<20	ND	ND	ND	280	ND	<20	ND	NA	NA	NA	NA
Oct-90	<50	6,300	--	--	<50	<50	<50	<50	<50	ND	ND	ND	270	ND	<50	ND	NA	NA	NA	NA
Jul-90	<20	4,100	--	--	<20	<20	<20	<20	<20	ND	ND	ND	910	ND	<20	ND	NA	NA	NA	NA
Apr-90	<20	3,000	--	--	<20	<20	<20	<20	<20	ND	ND	ND	250	ND	<20	ND	NA	NA	NA	NA
Jan-90	<20	5,500	--	--	<20	<20	<20	<20	<20	ND	ND	ND	1,300	ND	<20	ND	NA	NA	NA	NA
Oct-89	33	6,700	--	--	39	<2.0	2	<2.0	<2.0	NA	ND	NA	2,700	ND	<2.0	NA	NA	NA	NA	NA
Aug-89	<50	10,000	--	--	<50	<50	<50	<50	<50	NA	ND	NA	2,100	ND	<50	NA	NA	NA	NA	NA
Aug-89	<50	9,200	--	--	<50	<50	<50	<50	<50	NA	ND	NA	2,300	ND	<50	NA	NA	NA	NA	NA
Feb-89	<250	8,000	--	--	<250	<250	<250	<250	<250	NA	ND	NA	2,000	ND	<250	NA	NA	NA	NA	NA
Nov-88	<5.0	5,500	--	--	18	<5.0	<5.0	<5.0	<5.0	NA	ND	NA	<5.0	ND	<5.0	NA	NA	NA	NA	NA
Nov-88	<50	8,000	--	--	<															

**Historical Groundwater Volatile Organic Compound Results**  
**Former TRW Microwave Site**  
**825 Stewart Drive, Sunnyvale, California**

Well Number/ Dates	PCE (µg/L)	TCE (µg/L)	cis- 1,2-DCE (µg/L)	trans- 1,2-DCE (µg/L)	Total 1,2-DCE (µg/L)	VC (µg/L)	1,1,1- TCA (µg/L)	1,1- DCE (µg/L)	1,1- DCA (µg/L)	CDM (µg/L)	Freon 11 (µg/L)	Freon 12 (µg/L)	Freon 113 (µg/L)	BFM (µg/L)	1,2- DCB (µg/L)	CBN (µg/L)	BEN (µg/L)	EBN (µg/L)	TOL (µg/L)	XYL (µg/L)
Drinking Water Standard	5	5	6	10	6	0.5	200	6	5	100	150	NE	1200	100	600	70	1	300	150	1750
<b>T-7B ZB1</b>																				
Oct-17 Dup	0.64	190	12	1.1	--	<0.50	<0.50	0.57	<0.50	--	<1.0	<0.50	4.1	<1.0	2.0	<0.50	NA	NA	NA	NA
Oct-17	<5.0	190	9.7	<5.0	--	<5.0	<5.0	<5.0	<5.0	--	<10	<5.0	<5.0	<10	<5.0	<5.0	NA	NA	NA	NA
Oct-16	<0.50	21	1	<0.50	--	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	NA	NA	NA	NA
Oct-16 Dup	<0.50	21	1	<0.50	--	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	NA	NA	NA	NA
May-17	0.54	160	11	0.97	--	<0.50	<0.50	0.54	<0.50	NA	<1.0	<0.50	3.2	<1.0	1.6	<0.50	NA	NA	NA	NA
May-17 Dup	0.62	180	12	1.1	--	<0.50	<0.50	0.53	<0.50	NA	<1.0	<0.50	3.4	<1.0	1.8	<0.50	NA	NA	NA	NA
Oct-15	<0.50	72	4.8	<0.50	--	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	0.81	<1.0	<0.50	<0.50	NA	NA	NA	NA
Oct-15 Dup	<0.50	73	4.8	<0.50	--	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	0.81	<1.0	<0.50	<0.50	NA	NA	NA	NA
Jun-15	0.54	140	10	0.64	--	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	2.6	<1.0	1.1	<0.50	NA	NA	NA	NA
Jun-15 Dup	0.63	150	9.8	0.66	--	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	2.8	<1.0	1.3	<0.50	NA	NA	NA	NA
Oct-14	0.74	170	11	0.78	--	<0.50	<0.50	0.61	<0.50	<0.50	<1.0	<0.50	3.2	<1.0	2.1	<0.50	NA	NA	NA	NA
Oct-14 Dup	0.84	170	12	0.97	--	<0.50	0.51	0.74	0.57	<0.50	<1.0	<0.50	4.4	<1.0	2.4	<0.50	NA	NA	NA	NA
Oct-13	0.86	150	10	0.77	--	0.38 J	0.58	0.73	0.55		<1.0	<0.50	4.3	<1.0	2.2	<0.50	NA	NA	NA	NA
Oct-13 Dup	0.85	150	11	0.76	--	0.39 J	0.59	0.70	0.56		<1.0	<0.50	4.3	<1.0	2.1	<0.50	NA	NA	NA	NA
Oct-12	0.55/0.70	160/170	15	0.75/0.79	--	<0.5	0.52/0.55	0.61/0.60	0.51/0.52	<0.5	<1.0	<0.5	3.2/3.6	<1.0	1.6/2.0	<0.5	<0.5	<0.5	<0.5	<1.0
Oct-11 Dup	1.0	180	14	0.57	--	0.81	0.58	0.58	<0.50	<0.50	<1.0	<0.50	4	<1.0	2.6	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-11	1.1	170	14	0.57	--	0.82	0.56	0.55	0.5	<0.50	<1.0	<0.50	4	<1.0	2.4	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-10 Dup	<1.0	140	13	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	2.9	<2.0	2.0	<1.0	<0.50	<0.50	<0.50	<1.0
Oct-10	<1.0	130	12	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	2.7	<2.0	1.8	<1.0	<0.50	<0.50	<0.50	<1.0
Oct-09 Dup	0.77	140	9.8	<0.50	--	0.60	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	2.8	<1.0	1.2	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-09	0.79	150	10	<0.50	--	0.63	0.52	<0.50	<0.50	<0.50	<1.0	<0.50	3.1	<1.0	1.2	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-08 Dup	<2	150	7.6	<2	--	<2	<2	<2	<2	<2	<4	<2	4.8	<4	2.3	<2	<2	<2	<2	<4
Oct-08	<2	180	9.4	<2	--	<2	<2	<2	<2	<2	<4	<2	5.7	<4	3.0	<2	<2	<2	<2	<4
Oct-07	1.80	190	16	0.63	--	<0.5	0.92	0.65	0.55	<0.5	<1.0	<0.5	6.6	<0.5	3.6	<0.5	<0.5	<0.5	<0.5	<1.0
Oct-07 Dup	1.70	200	16	0.62	--	<0.5	0.92	0.65	0.57	<0.5	<1.0	<0.5	6.4	<0.5	3.7	<0.5	<0.5	<0.5	<0.5	<1.0
Oct-06	0.71	80	10	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	1.9	<0.5	<0.5	<0.5	NA	NA	NA	NA
Oct-06 Dup	0.58	88	10	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	1.8	<0.5	<0.5	<0.5	NA	NA	NA	NA
Oct-05	<1.0	95	13	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	1.9	<1.0	<1.0	<1.0	NA	NA	NA	NA
Oct-05 Dup	<1.0	88	13	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	1.7	<1.0	<1.0	<1.0	NA	NA	NA	NA
Oct-04	<1.0	140	14	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	2.3	<4.0	<1.0	<1.0	NA	NA	NA	NA
Oct-04 Dup	<1.0	140	14	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	2.4	<4.0	<1.0	<1.0	NA	NA	NA	NA
Oct-03	<5.0	190	28	<5.0	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	<10	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<10
Oct-03 Dup	<5.0	190	29	<5.0	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	<10	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<10
Apr-03	<1.0	140	18	<1.0	--	<2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	2.9	<1.0	NA	<1.0	NA	<1.0	<1.0	<2.0
Oct-02	<5.0	170	24	<5.0	--	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<10	55	<20	<5.0	<5.0	NA	NA	NA	NA
Oct-02 Dup	<2.0	160	24	<2.0	--	2	<2.0	<2.0	<2.0	<2.0	<4.0	<4.0	53	<8.0	<2.0	<2.0	NA	NA	NA	NA
Jul-02	<10	350	34	<10	--	<10	<10	<10	<10	ND	<20	<10	60	ND	<10	<10	NA	NA	NA	NA
Apr-02	<10	240	24	<10	--	<10	<10	<10	<10	ND	<20	<10	35	ND	<10	<10	NA	NA	NA	NA
Jan-02	<10	300	29	<10	--	<10	<10	<10	<10	ND	<20	<10	<10	ND	<10	<10	NA	NA	NA	NA
Oct-01	<5.0	210	25	<5.0	--	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	13	<5.0	<5.0	<5.0	NA	NA	NA	NA
Oct-01 Dup	<5.0	200	25	<5.0	--	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	12	<5.0	<5.0	<5.0	NA	NA	NA	NA
Aug-01	2.1	340	46	1.3	--	<2.0	1.9	2.4	<1.0	ND	8.6	<2.0	NA	ND	NA	<1.0	NA	<1.0	<1.0	<2.0
Jun-01	<1.0	68	61	<1.0	--	3.6	<1.0	1.6	<1.0	ND	51	24	NA	ND	NA	<1.0	NA	<1.0	<1.0	<2.0
Apr-01	1.4	200	34	<1.0	--	<2.0	1.8	1.2	<1.0	ND	20	<2.0	NA	ND	NA	<1.0	NA	<1.0	<1.0	<2.0
Feb-01	1.2	230	29	<1.0	--	<2.0	1.4	<1.0	<1.0	ND	11	14	NA	ND	NA	<1.0	NA	<1.0	<1.0	<2.0
Dec-00	<1.0	1.7	<1.0	<1.0	--	<2.0	<1.0	<1.0	<1.0	ND	<2.0	<2.0	NA	ND	NA	<1.0	NA	<1.0	<1.0	<2.0
Nov-00	<1.0	<1.0	<1.0	<1.0	--	<2.0	<1.0	<1.0	<1.0	ND	<2.0	<2.0	NA	ND	NA	<1.0	NA	<1.0	<1.0	<2.0
Oct-00	<10	180	24	<10	--	<10	<10	<10	<10	ND	<10	<10	<10	ND	<10	<10	NA	NA	NA	NA
Sep-00	1.6	270	29	<1.0	--	<2.0	2.5	1.2	<1.0	ND	<2.0	<2.0	NA	ND	NA	<1.0	NA	<1.0	<1.0	<2.0
Oct-99	<1.0	4.7	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	ND	ND	ND	<1.0	ND	<1.0	<1.0	NA	NA	NA	NA
Oct-98	<1.0	15	1.3	<1.0	--	<1.0	<1.0	<1.0	<1.0	ND	ND	ND	5.1	ND	<1.0	<1.0	NA	NA	NA	NA
Oct-97	<0.5	18	2.8	<0.5	--	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	1.9	ND	<1.0	<0.5	NA	NA	NA	NA
Oct-96	<0.5	39	5.3	<0.5	--	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	1.9	ND	<0.5	ND	NA	NA	NA	NA
Oct-95	<1.0	42	--	--	--	6.1	<2.0	<1.0	<1.0	ND	ND	ND	2.4	ND	<1.0	ND	NA	NA	NA	NA
Oct-94	<5.0	100	--	--	--	17	<5.0	<5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	ND	NA	NA	NA	NA
Oct-93	<5.0	590	--	--	--	59	<10	<5.0	<5.0	ND	ND	ND	11	ND	<5.0	ND	NA	NA	NA	NA



**Historical Groundwater Volatile Organic Compound Results**  
**Former TRW Microwave Site**  
**825 Stewart Drive, Sunnyvale, California**

Well Number/ Dates	PCE (µg/L)	TCE (µg/L)	cis- 1,2-DCE (µg/L)	trans- 1,2-DCE (µg/L)	Total 1,2-DCE (µg/L)	VC (µg/L)	1,1,1- TCA (µg/L)	1,1- DCE (µg/L)	1,1- DCA (µg/L)	CDM (µg/L)	Freon 11 (µg/L)	Freon 12 (µg/L)	Freon 113 (µg/L)	BFM (µg/L)	1,2- DCB (µg/L)	CBN (µg/L)	BEN (µg/L)	EBN (µg/L)	TOL (µg/L)	XYL (µg/L)
Drinking Water Standard	5	5	6	10	6	0.5	200	6	5	100	150	NE	1200	100	600	70	1	300	150	1750
<b>T-9B ZB1</b>																				
Jan-17 (34 ft)	1.9	300	280	3.5	--	2.6	<0.50	2.3	0.68	--	<1.0	<0.50	1.0	<1.0	0.79	<0.50	<0.50	<0.50	<0.50	<1.0
Jan-17 (29 ft)	1.5	230	330	3.4	--	7.3	<0.50	2.3	0.72	--	<1.0	<0.50	1.6	<1.0	0.82	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-17	1.7	310	260	3.5	--	2.1	<1.0	2.3	<1.0	--	<2.0	<1.0	1.0	<2.0	<1.0	<1.0	--	--	--	--
Oct-16 (34 ft)	<2.5	100	93	<2.5	--	<2.5	<2.5 *	<2.5	<2.5	<2.5	<5.0	<2.5 *	<2.5	<5.0	<2.5	<2.5	NA	NA	NA	NA
Oct-16 (29 ft)	<0.50	4	2.9	<0.50	--	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	NA	NA	NA	NA
May-16	1.5	270	240	3.2	--	2.2	<1.0	1.9	<1.0	NA	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	NA	NA	NA	NA
Oct-15	<2.5	150	150	<2.5	--	<2.5	<2.5	<2.5	<2.5	<2.5	<5.0	<2.5	<2.5	<5.0	<2.5	<2.5	NA	NA	NA	NA
Jun-15	2.2	310	220	3.3	--	2.3	<0.50	2.1	0.59	<0.50	<1.0	<0.50	1.0	<1.0	0.82	<0.50	NA	NA	NA	NA
Oct-14	<5.0	390	210	<5.0	--	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<5.0	NA	NA	NA	NA
Oct-13	2.2 J	410	280	5.0	--	3.6 J	<5.0	3.3 J	<5.0		<10	<5.0	1.5 J	<10	<5.0	<5.0	NA	NA	NA	NA
Oct-12	<5.0	130	360	5.1	--	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<10	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<10
Oct-11	<5.0	110	350	<5.0	--	5.1	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<10
Oct-10	0.87	96	250	3.4	--	12	<0.50	1.7	0.76	<0.50	<1.0	<0.50	1.0	<1.0	1.1	<0.50	<0.5	<0.5	<0.5	<1.0
Oct-09	<10	31	290	<10	--	69	<10	<10	<10	<10	<20	<10	<10	<20	<10	<10	<10	<10	<10	<20
Oct-08	<5	280	110	<5	--	<5	<5	<5	<5	<5	<10	<5	7.9	<10	<5	<5	<5	<5	<5	<10
Oct-07	4.4	470	190	3.2	--	9.8	<0.5	2.2	0.83	<0.5	<1.0	<0.5	8.4	<1.0	1.6	<0.5	<0.5	<0.5	<0.5	<1.0
Oct-06	<0.5	4.6	31	1.4	--	30	<0.5	<0.5	0.51	<0.5	<0.5	<1.0	<0.5	<0.5	0.61	<0.5	NA	NA	NA	NA
Oct-05	<5.0	16	630	5.9	--	150	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA
Oct-04	<5.0	470	300	5.1	--	33	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Oct-03	<5.0	390	560	7.8	--	38	<5.0	6.4	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<10
Apr-03	2.0	550	240	3.6	--	19	1.7	4.3	<1.0	NA	<2.0	<2.0	NA	<1.0	NA	<1.0	NA	<1.0	<1.0	<2.0
Oct-02	3.4	460	180	3.7	--	8.7	<2.5	2.8	<2.5	<2.5	<5.0	<5.0	5.3	<10	<2.5	<2.5	NA	NA	NA	NA
Jul-02	<5.0	460	190	<5.0	--	<5.0	<5.0	<5.0	<5.0	ND	<10	<5.0	<5.0	ND	<5.0	<5.0	NA	NA	NA	NA
Apr-02	<5.0	510	210	<5.0	--	5.3	<5.0	<5.0	<5.0	ND	<10	<5.0	<5.0	ND	<5.0	<5.0	NA	NA	NA	NA
Jan-02	<10	680	270	<10	--	<10	<10	<10	<10	ND	<20	<10	<10	ND	<10	<10	NA	NA	NA	NA
Oct-01	<10	780	150	<10	--	<10	<10	<10	<10	<10	<10	<20	<40	<40	<10	<10	NA	NA	NA	NA
Aug-01	<10	460	160	<10	--	<10	<10	<10	<10	NA	<10	<10	NA	ND	NA	<10	<10	<10	<10	<10
Oct-00	<70	1,000	200	<70	--	<70	<70	<70	<70	<70	ND	ND	<70	ND	<70	<70	NA	NA	NA	NA
Oct-99	<25	1,000	170	<25	--	46	<25	<25	<25	ND	ND	ND	<25	ND	<25	<25	NA	NA	NA	NA
Apr-99	<100	1,200	170	<100	--	<100	<100	<100	<100	ND	ND	ND	<100	ND	<100	<100	NA	NA	NA	NA
Apr-99 Dup	<100	1,100	160	<100	--	<100	<100	<100	<100	ND	ND	ND	<100	ND	<100	<100	NA	NA	NA	NA
Oct-98	<25	1,000	130	<25	--	37	<25	<25	<25	ND	ND	ND	<25	ND	<25	<25	NA	NA	NA	NA
Apr-98	<100	2,200	130	<100	--	<100	<100	<100	<100	ND	ND	ND	<400	ND	<100	<600	NA	NA	NA	NA
Apr-98 Dup	<100	2,000	<100	<100	--	<100	<100	<100	<100	ND	ND	ND	<400	ND	<100	ND	NA	NA	NA	NA
Oct-97	<50	1,600	150	<50	--	<50	<50	<50	<50	ND	ND	ND	<50	ND	<100	<50	NA	NA	NA	NA
Apr-97	15	1,300	130	<6.3	--	33	<6.3	<6.3	<6.3	ND	ND	ND	26	ND	8.1	ND	NA	NA	NA	NA
Oct-96	12	1,200	110	<5.0	--	25	<5.0	<5.0	<5.0	ND	ND	ND	13	ND	<5.0	ND	NA	NA	NA	NA
Apr-96	19	1,000	--	--	120	15	<2.5	<2.5	<2.5	ND	ND	ND	9.3	ND	6.1	ND	NA	NA	NA	NA
Oct-95	11	1,100	--	--	190	22	<10	<10	<10	ND	ND	ND	12	ND	<10	ND	NA	NA	NA	NA
Apr-95	<20	1,300	--	--	110	<40	<20	<20	<20	ND	ND	ND	<20	ND	<20	ND	NA	NA	NA	NA
Oct-94	<25	1,200	--	--	120	<25	<25	<25	<25	ND	ND	ND	<25	ND	<25	ND	NA	NA	NA	NA
Apr-94	22	1,300	--	--	110	55	<5.0	<5.0	<5.0	ND	ND	ND	28	ND	5.0	ND	NA	NA	NA	NA
Oct-93	14	1,900	--	--	99	35	<5.0	<5.0	<5.0	ND	ND	ND	51	ND	<5.0	ND	NA	NA	NA	NA
Apr-93	<50	3,200	--	--	75	<100	<50	<50	<50	ND	ND	ND	69	ND	<50	ND	NA	NA	NA	NA
Oct-92	36	5,100	--	--	<500	19	3.9	<0.5	3.4	ND	ND	ND	NA	ND	6.1	ND	NA	NA	NA	NA
Apr-92	<50	5,600	--	--	<50	<50	<50	<50	<50	ND	ND	ND	<50	ND	<50	ND	NA	NA	NA	NA
Jan-92	<30	4,100	--	--	<30	<30	<30	<30	<30	ND	ND	ND	<30	ND	<30	ND	NA	NA	NA	NA
Oct-91	<20	3,200	--	--	340	<20	<20	<20	<20	ND	ND	ND	<20	ND	<20	ND	NA	NA	NA	NA
Jul-91	<20	3,100	--	--	1,100	<20	<20	<20	<20	ND	ND	ND	<20	ND	<20	ND	NA	NA	NA	NA
Apr-91	<20	2,100	--	--	1,200	<20	<20	<20	<20	ND	ND	ND	<20	ND	<20	ND	NA	NA	NA	NA
Jan-91	10	2,200	--	--	580	30	<10	10	<10	ND	ND	ND	20	ND	<10	ND	NA	NA	NA	NA
Oct-90	<20	3,900	--	--	590	<20	<20	<20	<20	ND	ND	ND	<20	ND	<20	ND	NA	NA	NA	NA
Jul-90	30	5,200	--	--	420	<20	<20	<20	<20	ND	ND	ND	<20	ND	<20	ND	NA	NA	NA	NA
Jan-90	61	6,100	--	--	120	<50	<50	<50	<50	ND	ND	ND	<50	ND	<50	ND	NA	NA	NA	NA
Oct-89	38	3,800	--	--	160	20	<10	<10	<10	NA	ND	NA	50	ND	<10	NA	NA	NA	NA	NA
Aug-89	61	7,300	--	--	<50	<50	<50	<50	<50	NA	ND	NA	200	ND	<50	NA	NA	NA	NA	NA
Jun-89	39	3,500	--	--	130	73	<10	<10	<10	NA	ND	NA	150	ND	<10	NA	NA	NA	NA	NA
Feb-89	<25	6,400	--	--	45	<25	<25	<25	<25	NA	ND	NA	200	ND	<25	NA	NA	NA	NA	NA
Nov-88	50	6,900	--	--	<50	<50	80	<50	<50	NA	ND	NA	310	ND	<50	NA	NA	NA	NA	NA
Aug-88	36	5,200	--	--	85	18	13	4.7	1.5	NA	ND	NA	170							

**Historical Groundwater Volatile Organic Compound Results**  
**Former TRW Microwave Site**  
**825 Stewart Drive, Sunnyvale, California**

Well Number/ Dates	PCE (µg/L)	TCE (µg/L)	cis- 1,2-DCE (µg/L)	trans- 1,2-DCE (µg/L)	Total 1,2-DCE (µg/L)	VC (µg/L)	1,1,1- TCA (µg/L)	1,1- DCE (µg/L)	1,1- DCA (µg/L)	CDM (µg/L)	Freon 11 (µg/L)	Freon 12 (µg/L)	Freon 113 (µg/L)	BFM (µg/L)	1,2- DCB (µg/L)	CBN (µg/L)	BEN (µg/L)	EBN (µg/L)	TOL (µg/L)	XYL (µg/L)
Drinking Water Standard	5	5	6	10	6	0.5	200	6	5	100	150	NE	1200	100	600	70	1	300	150	1750
<b>T-10B ZB1</b>																				
Oct-17	1.6	41	150	3.5	--	50	<0.50	0.94	0.65	--	<1.0	<0.50	<0.50	<1.0	4.2	<0.50	NA	NA	NA	NA
Oct-16	<0.50	<0.50	8.6	8.3	--	61	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	0.85	<0.50	NA	NA	NA	NA
May-16	0.81	21	140	13	--	74	<0.50	0.56	0.69	NA	<1.0	<0.50	<0.50	<1.0	3.4	<0.50	NA	NA	NA	NA
Oct-15	0.84	31	97	1.8	--	23	<0.50	0.52	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	1.9	<0.50	NA	NA	NA	NA
Oct-14	2.1	45	180	3.3	--	16	<0.50	1.1	0.82	<0.50	<1.0 *	<0.50 *	<0.50	<1.0	4.8	<0.50	NA	NA	NA	NA
Oct-13	0.59	17	50	0.21 J	--	<0.50	<0.50	<0.50	0.43 J		<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	NA	NA	NA	NA
Oct-12	2.7	50	140	3.1	--	21	<0.50	0.99	0.76	<0.50	<1.0	<0.50	<0.50	<1.0	5.4	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-11	3.2	48	110	3.0	--	24	<0.50	1.2	1	<0.50	<1.0	<0.50	<0.50	<1.0	5.2	<0.50	<0.5	<0.5	<0.5	1.2
Oct-10	2.0	44	97	2.3	--	23	<0.50	0.57	0.77	<0.50	<1.0	<0.50	<0.50	<1.0	3.7	<0.50	<0.5	<0.5	<0.5	<1
Oct-09	0.94	20	49	1.4	--	9.8	<0.50	<0.50	0.55	<0.50	<1.0	<0.50	<0.50	<1.0	1.5	<0.50	1.5	<0.50	<0.50	<1.0
Oct-08	2.1	45	48	1.8	--	10	<0.5	<0.5	0.82	<0.5	<1	<0.5	<0.5	<1	3.2	<0.5	<0.5	<0.5	<0.5	<1
Oct-07	6.6	86	62	<5.0	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jul-07	5.4	65	61	<5.0	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
May-07	7.2	80	87	<5.0	--	8.9	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jan-07	12.0	130	140	<5.0	--	17.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Oct-06	7.8	120	130	<5.0	--	6.2	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jul-06	8.1	150	170	<5.0	--	9.3	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Apr-06	20	150	190	10.0	--	17	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jan-06	10	170	190	<5.0	--	51	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Oct-05	9.9	180	79	<5.0	--	39	<5.0	<5.0	<5.0	NA	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Oct-04	11	170	57	2.0	--	29	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	1.1	<4.0	10	<1.0	NA	NA	NA	NA
Oct-03	12	140	73	2.1	--	43	<2.0	<2.0	<2.0	<2.0	<4.0	<4.0	<2.0	<8.0	10	<2.0	NA	NA	NA	NA
Oct-02	8.9	130	56	2.8	--	11	1.2	<1.0	<1.0	<1.0	<2.0	<2.0	1.4	<4.0	8.4	<1.0	NA	NA	NA	NA
Jul-02	10	170	97	<2.5	--	16	<2.5	<2.5	<2.5	ND	<2.5	<5.0	<2.5	ND	6.9	<2.5	NA	NA	NA	NA
Apr-02	12	200	110	<2.5	--	15	<2.5	<2.5	<2.5	ND	<2.5	<5.0	<2.5	ND	10	<2.5	NA	NA	NA	NA
Jan-02	14	230	130	<2.5	--	25	<2.5	<2.5	<2.5	ND	<2.5	<5.0	<2.5	ND	12	<2.5	NA	NA	NA	NA
Oct-01	8.2	160	75	<5.0	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<20	<20	<5.0	<5.0	NA	NA	NA	NA
Aug-01	7.6	170	110	<5.0	--	27	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	ND	NA	<5.0	<5.0	<5.0	<5.0	<5.0
Apr-01	9.6	160	100	<2.5	--	20	<2.5	<2.5	<2.5	ND	<10	<2.5	<10	ND	9.6	<2.5	NA	NA	NA	NA
Jan-01	13	210	130	2.7	--	12	2.9	1.2	<1.0	NA	<2.0	<2.0	NA	ND	NA	<1.0	NA	<1.0	<1.0	<2.0
Oct-00	<20	170	110	<15	--	<15	<15	<15	<15	<15	<15	<20	<20	<15	<15	<15	NA	NA	NA	NA
<b>T-17B ZB1</b>																				
Oct-17	<5.0	210	370	<5.0	--	<5.0	<5.0	<5.0	<5.0	--	<10	<5.0	7.1	<10	<5.0	<5.0	--	--	--	--
Oct-16	<2.5	190	200	<2.5	--	<2.5	<2.5	<2.5	<2.5	<2.5	<5.0	<2.5	8.2	<5.0	<2.5	<2.5	NA	NA	NA	NA
May-16	0.63	180	260	1.7	--	<0.50	<0.50	0.95	<0.50	NA	<1.0	<0.50	8.8	<1.0	<0.50	<0.50	NA	NA	NA	NA
Oct-15	0.88	280	290	1.9	--	0.51	<0.50	1.1	<0.50	<0.50	<1.0	<0.50	9.9	<1.0	<0.50	<0.50	NA	NA	NA	NA
Jun-15	1.0	230	310	2.7	--	0.50	<0.50	1.7	<0.50	<0.50	<1.0	<0.50	11	<1.0	<0.50	<0.50	NA	NA	NA	NA
Oct-14	<5.0	75	400	<5.0	--	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<5.0	NA	NA	NA	NA
Apr-14	<5.0	55	370	<5.0	--	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<10
Oct-13	<5.0	130	390	<5.0	--	<5.0	<5.0	<5.0	<5.0		<10	<5.0	<5.0	<10	<5.0	<5.0	NA	NA	NA	NA
May-13	<5.0	120	370	<5.0	--	<5.0	<5.0	<5.0	<5.0		<10	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<10
Oct-12	<5.0	310	230	<5.0	--	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	14	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<10
Apr-12	<5.0	110	510	<5.0	--	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	8.9	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<10
Apr-12 Dup	<5.0	110	490	<5.0	--	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	9.9	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<10
Oct-11	<5.0	270	230	<5.0	--	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	8.1	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<10
Oct-10	<5.0	120	320	<5.0	--	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<5.0	<0.50	<0.50	<0.50	<1.0
Oct-09	<0.50	69.0	190	3.5	--	<0.50	<0.50	0.69	<0.50	<0.50	<1.0	<0.50	2.1	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-08	<5	400.0	62	<5	--	<5	<5	<5	<5	<5	<10	<5	20	<10	<5	<5	<5	<5	<5	<10
Oct-07	<5.0	610	79	<5.0	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jul-07	<5.0	450	87	<5.0	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
May-07	<5.0	430	140	<5.0	--	11	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jan-07	12	660	220	<5.0	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Oct-06	<5.0	240	280	<5.0	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jul-06	<5.0	200	460	<5.0	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Apr-06	<5.0	340	420	6.8	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jan-06	<5.0	400	280	<5.0	--	<5.0	<5.0	<5.0	<5.0	NA	<5.0									

**Historical Groundwater Volatile Organic Compound Results**  
**Former TRW Microwave Site**  
**825 Stewart Drive, Sunnyvale, California**

Well Number/ Dates	PCE (µg/L)	TCE (µg/L)	cis- 1,2-DCE (µg/L)	trans- 1,2-DCE (µg/L)	Total 1,2-DCE (µg/L)	VC (µg/L)	1,1,1- TCA (µg/L)	1,1- DCE (µg/L)	1,1- DCA (µg/L)	CDM (µg/L)	Freon 11 (µg/L)	Freon 12 (µg/L)	Freon 113 (µg/L)	BFM (µg/L)	1,2- DCB (µg/L)	CBN (µg/L)	BEN (µg/L)	EBN (µg/L)	TOL (µg/L)	XYL (µg/L)
Drinking Water Standard	5	5	6	10	6	0.5	200	6	5	100	150	NE	1200	100	600	70	1	300	150	1750
<b>T-2C ZB2</b>																				
Sep-14	<0.50	280	120	1.6	--	8.5	<0.50	0.97	<0.50	<0.50	<1.0	<0.50	1.3	<1.0	<0.50	<0.50	NA	NA	NA	NA
Apr-14	<0.50	150	48	0.80	--	0.59	<0.50	0.65	<0.50	<0.50	<1.0	<0.50	0.94	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Oct-13	<0.50	110	44	<0.50	--	<0.50	<0.50	<0.50	<0.50	NA	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	NA	NA	NA	NA
Oct-12	<5.0	310	160	<0.50	--	19	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<10
Oct-11	<0.50	310	88	1.1	--	11	<0.50	1.4	<0.50	<0.50	<1.0	<0.50	3	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-10	<0.50	81	22	0.60	--	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	0.56	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-09	0.65	460	94	2.0	--	33	<0.50	1.4	<0.50	<0.50	<1.0	<0.50	9.2	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-08	<1	130	33	<1	--	1.6	<1	<1	<1	<1	<2	<1	2.3	<2	<1	<1	<1	<1	<1	<2
Oct-07	2.3	1200	43	<2.0	--	6.8	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0	36	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0
Oct-06	<2.0	190	28	<2.0	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0	2.8	<2.0	<2.0	<2.0	NA	NA	NA	NA
Oct-05	<2.0	260	38	<2.0	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0	4.8	<2.0	<2.0	<2.0	NA	NA	NA	NA
Oct-04	<2.0	280	37	<2.0	--	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0	<4.0	6.3	<8.0	<2.0	<2.0	NA	NA	NA	NA
Oct-03	<5.0	340	56	<5.0	--	6.7	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<10
Apr-03	<1.0	1300	47	<1.0	--	52	1.7	1.9	<1.0	NA	<2.0	<2.0	NA	<1.0	NA	<1.0	NA	<1.0	<1.0	<2.0
Oct-02	<2.5	400	59	<2.5	--	2.7	<2.5	<2.5	<2.5	<2.5	<5.0	<5.0	11	<10	<2.5	<2.5	NA	NA	NA	NA
Jul-02	<25	1500	47	<25	--	42	<25	<25	<25	ND	<25	<50	<25	ND	<25	<25	NA	NA	NA	NA
Apr-02	<25	1500	74	<25	--	32	<25	<25	<25	ND	<25	<50	<25	ND	<25	<25	NA	NA	NA	NA
Jan-02	<25	1800	110	<25	--	45	<25	<25	<25	ND	<25	<50	<25	ND	<25	<25	NA	NA	NA	NA
Oct-01	7	1500	220	2.3	--	49	<1.0	2	<1.0	NA	5.1	<2.0	NA	<1.0	NA	1.4	NA	5.8	<1.0	19.9
Jun-01	<25	1300	630	<25	--	110	<25	<25	<25	ND	<25	<25	<100	ND	<25	ND	NA	NA	NA	NA
Mar-01	<25	1800	79	<25	--	52	<25	<25	<25	ND	<25	<25	<100	ND	<25	<25	NA	NA	NA	NA
Jan-01	3.3	3400	70	2.5	--	20	<1.0	6.6	<1.0	NA	12	<2.0	NA	ND	NA	<1.0	NA	<1.0	<1.0	<2.0
Oct-00	<100	2700	110	<100	--	<100	<100	<100	<100	<100	ND	ND	380	ND	<100	<100	NA	NA	NA	NA
Oct-99	<100	4600	<100	<100	--	<100	<100	<100	<100	ND	ND	ND	510	ND	<100	<100	NA	NA	NA	NA
Oct-99 Dup	<100	4000	<100	<100	--	<100	<100	<100	<100	ND	ND	ND	440	ND	<100	ND	NA	NA	NA	NA
Apr-99	<100	3600	<100	<100	--	<100	<100	<100	<100	ND	ND	ND	410	ND	<100	<100	NA	NA	NA	NA
Oct-98	<25	1000	130	<25	--	<25	<25	<25	<25	ND	ND	ND	92	ND	<25	<25	NA	NA	NA	NA
Apr-98 **	<50	3500	<50	<50	--	<50	<50	<50	<50	ND	ND	ND	320	ND	<50	<50	NA	NA	NA	NA
Oct-97	<100	3600	<100	<100	--	<100	<100	<100	<100	ND	ND	ND	400	ND	<200	<100	NA	NA	NA	NA
Apr-97	<25	4000	28	<25	--	34	<25	<25	<25	ND	ND	ND	420	ND	<25	ND	NA	NA	NA	NA
Oct-96	<17	4000	21	<17	--	34	<17	<17	<17	ND	ND	ND	260	ND	<17	ND	NA	NA	NA	NA
Oct-95	<25	3100	--	--	<25	<50	<25	<25	<25	ND	ND	ND	280	ND	<25	ND	NA	NA	NA	NA
Aug-95	<40	2000	--	--	<40	<80	<40	<40	<40	ND	ND	ND	51	ND	<40	ND	NA	NA	NA	NA
Oct-94	<50	3600	--	--	<50	<50	<50	<50	<50	ND	ND	ND	300	ND	<50	ND	NA	NA	NA	NA
Apr-94	<5.0	7200	--	--	20	<5.0	<5.0	<5.0	<5.0	ND	ND	ND	200	ND	<5.0	ND	NA	NA	NA	NA
Oct-93	<5.0	3000	--	--	10	<10	<5.0	<5.0	<5.0	ND	ND	ND	180	ND	<5.0	ND	NA	NA	NA	NA
Apr-93	<50	3400	--	--	<50	<100	<50	<50	<50	ND	ND	ND	210	ND	<50	ND	NA	NA	NA	NA
Oct-92	3.9	8200	--	--	13.7	<1.0	0.8	<0.5	<0.5	ND	ND	ND	NA	ND	<0.5	ND	NA	NA	NA	NA
Apr-92	<20	2800	--	--	<20	<20	<20	<20	<20	ND	ND	ND	60	ND	<20	ND	NA	NA	NA	NA
Jan-92	<30	5200	--	--	<30	<30	<30	<30	<30	ND	ND	ND	120	ND	<30	ND	NA	NA	NA	NA
Oct-91	<20	4700	--	--	120	<20	<20	<20	<20	ND	ND	ND	200	ND	<20	ND	NA	NA	NA	NA
Jul-91	<20	3900	--	--	<20	<20	<20	<20	<20	ND	ND	ND	210	ND	<20	ND	NA	NA	NA	NA
Apr-91	<20	2400	--	--	<20	<20	<20	<20	<20	ND	ND	ND	50	ND	<20	ND	NA	NA	NA	NA
Jan-91	<20	4000	--	--	<20	<20	<20	<20	<20	ND	ND	ND	220	ND	<20	ND	NA	NA	NA	NA
Oct-90	<20	2100	--	--	<20	<20	<20	<20	<20	ND	ND	ND	90	ND	<20	ND	NA	NA	NA	NA
Jul-90	<20	3300	--	--	<20	<20	<20	<20	<20	ND	ND	ND	240	ND	<20	ND	NA	NA	NA	NA
Apr-90	<20	4900	--	--	<20	<20	<20	<20	<20	ND	ND	ND	370	ND	<20	ND	NA	NA	NA	NA
Jan-90	<20	3600	--	--	<20	<20	<20	<20	<20	ND	ND	ND	390	ND	<20	ND	NA	NA	NA	NA
Oct-89	<20	3300	--	--	<20	<20	<20	<20	<20	NA	ND	ND	180	ND	<20	NA	NA	NA	NA	NA
Aug-89	<25	4300	--	--	<25	<25	25	<25	<25	NA	ND	ND	420	ND	<25	NA	NA	NA	NA	NA
May-89	<25	3900	--	--	<25	<25	<25	<25	<25	NA	ND	ND	270	ND	<25	NA	NA	NA	NA	NA
May-89	<25	3500	--	--	<25	<25	<25	<25	<25	NA	ND	ND	230	ND	<25	NA	NA	NA	NA	NA
Feb-89	<25	3100	--	--	<25	<25	<25	<25	<25	NA	ND	ND	220	ND	<25	NA	NA	NA	NA	NA
Nov-88	65	3000	--	--	<50	<50	<50	<50	<50	NA	ND	ND	440	ND	<50	NA	NA	NA	NA	NA
Aug-88	<25	3400	--	--	<25	<25	36	<25	<25	NA	ND	ND	400	ND	<25	NA	NA	NA	NA	NA
Jun-88	<10	5500	--	--	<10	<10	<10	<10	<10	NA	ND	ND	330	ND	<10	NA	NA	NA	NA	NA
Jan-88	<100	4400	--	--	<100	<100	<100	<100	<100	NA	ND	ND	<100	ND	<100	NA	NA	NA	NA	NA
Oct-87	<25	3500	--	--	<25	<25	<25	<25	<25	NA	ND	ND	240	ND	<25	NA	NA	NA	NA	NA
Jul-87	<25	4200	--	--	<25	<25	<25	<25	<25	NA	ND	ND	220	ND	<25	NA	NA	NA	NA	NA
Jan-87	<10	3300	--	--	<10	<10	<10	<10	<10	NA	ND	ND	170	ND	<10	NA	NA	NA	NA	NA
Jul-86	<10	2000</																		

**Historical Groundwater Volatile Organic Compound Results**  
**Former TRW Microwave Site**  
**825 Stewart Drive, Sunnyvale, California**

Well Number/ Dates	PCE (µg/L)	TCE (µg/L)	cis- 1,2-DCE (µg/L)	trans- 1,2-DCE (µg/L)	Total 1,2-DCE (µg/L)	VC (µg/L)	1,1,1- TCA (µg/L)	1,1- DCE (µg/L)	1,1- DCA (µg/L)	CDM (µg/L)	Freon 11 (µg/L)	Freon 12 (µg/L)	Freon 113 (µg/L)	BFM (µg/L)	1,2- DCB (µg/L)	CBN (µg/L)	BEN (µg/L)	EBN (µg/L)	TOL (µg/L)	XYL (µg/L)
Drinking Water Standard	5	5	6	10	6	0.5	200	6	5	100	150	NE	1200	100	600	70	1	300	150	1750
<b>10C (continued)</b>																				
Oct-97	<2.5	57	<2.5	<2.5	--	<2.5	<2.5	<2.5	<2.5	ND	ND	ND	<2.5	ND	<5.0	ND	NA	NA	NA	NA
Oct-96	<0.5	46	1.6	<0.5	--	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	0.8	ND	<0.5	ND	NA	NA	NA	NA
Oct-95	<1.0	38	--	--	3.2	<2.0	<1.0	<1.0	<1.0	ND	ND	ND	<1.0	ND	<1.0	ND	NA	NA	NA	NA
Oct-94	<25	200	--	--	<25	<25	<25	<25	<25	ND	ND	ND	<25	ND	<25	ND	NA	NA	NA	NA
Oct-93	<0.5	260	--	--	0.9	<1.0	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Oct-92	<0.5	250	--	--	0.8	<1.0	<0.5	<0.5	<0.5	ND	ND	ND	NA	ND	<0.5	ND	NA	NA	NA	NA
Oct-92	<0.5	290	--	--	0.9	<1.0	<0.5	<0.5	<0.5	ND	ND	ND	NA	ND	<0.5	ND	NA	NA	NA	NA
Oct-92	<0.5	97	--	--	1.1	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	8.3	ND	<0.5	ND	NA	NA	NA	NA
Apr-92	3.0	2,300	--	--	6.5	<0.5	4.5	79	0.6	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Apr-92	<20	4,400	--	--	<20	<20	<20	<20	<20	ND	ND	ND	<20	ND	<20	ND	NA	NA	NA	NA
Jan-92	<30	2,900	--	--	<30	<30	<30	<30	<30	ND	ND	ND	90	ND	<30	ND	NA	NA	NA	NA
Oct-91	<50	5,900	--	--	<50	<50	<50	<50	<50	ND	ND	ND	<50	ND	<50	ND	NA	NA	NA	NA
Oct-91	<20	2,700	--	--	<20	<20	<20	<20	<20	ND	ND	ND	110	ND	<20	ND	NA	NA	NA	NA
Oct-91	<10	4,100	--	--	<10	<20	<10	<10	<10	ND	ND	ND	180	ND	<10	ND	NA	NA	NA	NA
Jul-91	<50	7,000	--	--	<50	<50	<50	<50	<50	ND	ND	ND	220	ND	<50	ND	NA	NA	NA	NA
Jul-91	<50	6,800	--	--	<50	<50	<50	<50	<50	ND	ND	ND	360	ND	<50	ND	NA	NA	NA	NA
Jul-91	<50	5,400	--	--	<50	<100	<50	<50	<50	ND	ND	ND	200	ND	<50	ND	NA	NA	NA	NA
Apr-91	1	2,200	--	--	5.5	<1.0	6.0	16	1.4	ND	ND	ND	170	ND	<0.5	ND	NA	NA	NA	NA
Apr-91	<50	5,200	--	--	<50	<50	<50	<50	<50	ND	ND	ND	340	ND	<50	ND	NA	NA	NA	NA
Apr-91	<50	3,500	--	--	<50	<50	<50	<50	<50	ND	ND	ND	210	ND	<50	ND	NA	NA	NA	NA
Jan-91	<20	4,100	--	--	<20	<20	<20	40	<20	ND	ND	ND	150	ND	<20	ND	NA	NA	NA	NA
Jan-91	<20	4,000	--	--	<20	<20	<20	70	<20	ND	ND	ND	160	ND	<20	ND	NA	NA	NA	NA
Jan-91	<25	3,000	--	--	<25	<50	27	41	<25	ND	ND	ND	270	ND	<25	ND	NA	NA	NA	NA
Oct-90	<20	4,200	--	--	<20	<20	<20	<20	<20	ND	ND	ND	550	ND	<20	ND	NA	NA	NA	NA
Jul-90	<20	4,600	--	--	<20	<20	<20	<20	<20	ND	ND	ND	490	ND	<20	ND	NA	NA	NA	NA
Jul-90	<200	6,800	--	--	<200	<400	<200	<200	<200	ND	ND	ND	860	ND	<200	ND	NA	NA	NA	NA
Apr-90	<100	11,000	--	--	<100	<100	<100	<100	<100	ND	ND	ND	670	ND	<100	ND	NA	NA	NA	NA
Apr-90	<100	11,000	--	--	<100	<100	<100	<100	<100	ND	ND	ND	600	ND	<100	ND	NA	NA	NA	NA
Apr-90	<25	7,500	--	--	<25	<50	55	45	<25	ND	ND	ND	1,100	ND	<25	ND	NA	NA	NA	NA
Jan-90	<100	16,000	--	--	<100	<100	<100	<100	<100	ND	ND	ND	1,800	ND	<100	ND	NA	NA	NA	NA
Jan-90	<100	15,000	--	--	<100	<100	<100	<100	<100	ND	ND	ND	1,600	ND	<100	ND	NA	NA	NA	NA
Jan-90	<20	15,000	--	--	<20	<20	<90	<20	<20	ND	ND	ND	1,600	ND	<20	ND	NA	NA	NA	NA
Oct-89	<50	13,000	--	--	<50	<50	<50	<50	<50	NA	ND	NA	3,400	ND	<50	NA	NA	NA	NA	NA
Aug-89	<50	13,000	--	--	<50	<50	200	<50	<50	NA	ND	NA	1,500	ND	<50	NA	NA	NA	NA	NA
May-89	13	14,000	--	--	10.3	<0.2	320	80	10	NA	ND	NA	1,900	ND	<0.2	NA	NA	NA	NA	NA
May-89	<50	13,000	--	--	<50	<50	250	<50	<50	NA	ND	NA	1,700	ND	<50	NA	NA	NA	NA	NA
Feb-89	<250	9,300	--	--	<250	<250	<250	<250	<250	NA	ND	NA	550	ND	<250	NA	NA	NA	NA	NA
Nov-88	<50	12,000	--	--	<50	<50	200	50	<50	NA	ND	NA	1,400	ND	<50	NA	NA	NA	NA	NA
Aug-88	<100	16,000	--	--	<100	<100	300	<100	<100	NA	ND	NA	2,300	ND	<100	NA	NA	NA	NA	NA
May-88	<50	7,100	--	--	<50	<50	100	<50	<50	NA	ND	NA	640	ND	<50	NA	NA	NA	NA	NA
Jan-88	<100	10,000	--	--	<100	<100	<100	<100	<100	NA	ND	NA	3,200	ND	<100	NA	NA	NA	NA	NA
Oct-87	<50	6,700	--	--	<50	<50	60	<50	<50	NA	ND	NA	1,700	ND	<50	NA	NA	NA	NA	NA
Jun-87	<25	4,200	--	--	<25	<25	<25	<25	<25	NA	ND	NA	460	ND	<25	NA	NA	NA	NA	NA
Apr-87	<10	2,000	--	--	<10	<10	<10	66	<10	NA	ND	NA	360	ND	<10	NA	NA	NA	NA	NA
Jan-87	<50	9,500	--	--	<50	<50	<50	<50	<50	NA	ND	NA	700	ND	<50	NA	NA	NA	NA	NA
Sep-86	130	3,600	--	--	<25	<25	<25	<25	<25	NA	ND	NA	1,100	ND	<25	NA	NA	NA	NA	NA
Jul-86	<1.0	6,800	--	--	<1.0	<1.0	44	54	<1.0	NA	ND	NA	1,600	ND	<1.0	NA	NA	NA	NA	NA
Jul-86	<25	5,400	--	--	<25	<25	<25	<25	<25	NA	ND	NA	2,700	ND	<25	NA	NA	NA	NA	NA
<b>T-11C ZB2</b>																				
Oct-17	<0.50	310 H	26	0.84	--	2.8	<0.50	2.2	<0.50	--	<1.0	<0.50	10	<1.0	<0.50	<0.50	NA	NA	NA	NA
Oct-16	<0.50	3	<0.50	<0.50	--	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	NA	NA	NA	NA
Oct-15	<0.50	43	3.3	<0.50	--	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	1.1	<1.0	<0.50	<0.50	NA	NA	NA	NA
Oct-14	<2.5	310	23	<2.5	--	3.6	<2.5	<2.5	<2.5	<2.5	<5.0	<2.5	15	<5.0	<2.5	<2.5	NA	NA	NA	NA
Oct-13	<2.5	460	35	0.68 J	--	4.8	<2.5	2.4 J	<2.5	<2.5	<5.0	<2.5	22	<5.0	<2.5	<2.5	NA	NA	NA	NA
Oct-12	<2.5	290	26	<2.5	--	5.2	<2.5	<2.5	<2.5	<2.5	<5.0	<2.5	17	<5.0	<2.5	<2.5	<2.5	<2.5	<2.5	<5.0
Oct-11	<2.5	310	22	<2.5	--	6.4	<2.5	<2.5	<2.5	<2.5	<5.0	<2.5	16	<5.0	<2.5	<2.5	<2.5	<2.5	<2.5	<5.0
Oct-10	<0.50	250	16	<0.50	--	3.7	<0.50	1.1	<0.50	<0.50	<1.0	<0.50	5.5	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-09	<0.50	1.7	3.9	<0.50	--	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-08	<0.5	18	1.2	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	0.60	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1
Oct-07	<2.5	290	20	<2.5	--	11	<2.5	<2.5	<2.5	<2.5	<5.0	<2.5	14	<5.0	<2.5	<2.5	<2.5	<2.5	<2.5	<5.0
Oct-06	<2.5	330	22	<2.5	--	11	<2.5	<2.5	<2.5	<2.5	<5.0	<2.5	13	<2.5	<2.5	<2.5	NA	NA	NA	NA
Oct-05	<0.5	28	1.6	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	<1.0	0.8	<0.5	<0.5	<0.5	NA	NA	NA	NA

**Historical Groundwater Volatile Organic Compound Results**  
**Former TRW Microwave Site**  
**825 Stewart Drive, Sunnyvale, California**

Well Number/ Dates	PCE (µg/L)	TCE (µg/L)	cis- 1,2-DCE (µg/L)	trans- 1,2-DCE (µg/L)	Total 1,2-DCE (µg/L)	VC (µg/L)	1,1,1- TCA (µg/L)	1,1- DCE (µg/L)	1,1- DCA (µg/L)	CDM (µg/L)	Freon 11 (µg/L)	Freon 12 (µg/L)	Freon 113 (µg/L)	BFM (µg/L)	1,2- DCB (µg/L)	CBN (µg/L)	BEN (µg/L)	EBN (µg/L)	TOL (µg/L)	XYL (µg/L)
Drinking Water Standard	5	5	6	10	6	0.5	200	6	5	100	150	NE	1200	100	600	70	1	300	150	1750
<b>T-11C (continued)</b>																				
Nov-88	<10	740	--	--	<10	<10	<10	<10	<10	NA	ND	NA	100	ND	<10	NA	NA	NA	NA	NA
Aug-88	<25	1,800	--	--	87	<25	<25	<25	<25	NA	ND	NA	230	ND	<25	NA	NA	NA	NA	NA
May-88	<5.0	1,100	--	--	40	<5.0	<5.0	<5.0	<5.0	NA	ND	NA	120	ND	<5.0	NA	NA	NA	NA	NA
Jan-88	<25	2,200	--	--	<25	<25	<25	<25	<25	NA	ND	NA	430	ND	<25	NA	NA	NA	NA	NA
Oct-87	<10	1,900	--	--	<10	<10	<10	<10	<10	NA	ND	NA	140	ND	<10	NA	NA	NA	NA	NA
Jun-87	<10	2,900	--	--	<10	<10	<10	<10	<10	NA	ND	NA	230	ND	<10	NA	NA	NA	NA	NA
Apr-87	11	1,600	--	--	87	<10	<10	12	<10	NA	ND	NA	210	ND	<10	NA	NA	NA	NA	NA
Jan-87	<10	2,200	--	--	<10	<10	<10	<10	<10	NA	ND	NA	260	ND	<10	NA	NA	NA	NA	NA
Sep-86	62	3,100	--	--	<25	<25	<25	<25	<25	NA	ND	NA	660	ND	<25	NA	NA	NA	NA	NA
Jul-86	<1.0	1,800	--	--	<1.0	<1.0	9.7	3.2	<1.0	NA	ND	NA	710	ND	<1.0	NA	NA	NA	NA	NA
Jul-86	<25	4,600	--	--	<25	<25	<25	<25	<25	NA	ND	NA	2,000	ND	<25	NA	NA	NA	NA	NA
<b>T-12C ZB2</b>																				
Oct-17	<0.50	140	6.3	0.86	--	<0.50	<0.50	1.3	<0.50	--	<1.0	<0.50	1.7	<1.0	<0.50	<0.50	NA	NA	NA	NA
Oct-16	<0.50	<0.50	4.7	<0.50	--	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	NA	NA	NA	NA
Oct-15	<0.50	2	13	<0.50	--	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	NA	NA	NA	NA
Oct-14	<1.0	140	5.1	<1.0	--	<1.0	<1.0	1.2	<1.0	<1.0	<2.0	<1.0	1.8	<2.0	<1.0	<1.0	NA	NA	NA	NA
Oct-13	<0.50	140	85	1.5	--	4.7	<0.50	2.3	<0.50	--	<1.0	0.23 J	2.7	<1.0	<0.50	<0.50	NA	NA	NA	NA
Oct-12	<0.50	9.3	11	<0.50	--	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-11	<0.50	7.6	8.7	<0.50	--	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-10	<0.50	6.3	4.2	<0.50	--	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-09	<0.50	170	53	1.2	--	3.8	<0.50	1.7	<0.50	<0.50	<1.0	<0.50	3.4	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-08	<2	170	65	<2	--	4.7	<2	<2	<2	<2	<4	<2	3.7	<4	<2	<2	<2	<2	<2	<4
Oct-07	<2.0	210	19	<2.0	--	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0	<2.0	5.2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0
Oct-06	<2.0	210	37	<2.0	--	3.1	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0	5.7	<2.0	<2.0	<2.0	NA	NA	NA	NA
Oct-05	<2.0	180	39	<2.0	--	4.3	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0	5.4	<2.0	<2.0	<2.0	NA	NA	NA	NA
Oct-04	<2.0	240	50	<2.0	--	4.2	<2.0	<2.0	<2.0	<2.0	<4.0	<4.0	7.6	<8.0	<2.0	<2.0	NA	NA	NA	NA
Oct-03	<5.0	210	61	<5.0	--	6.2	<5.0	<5.0	<5.0	<5.0	<10	<10	7.8	<20	<5.0	<5.0	NA	NA	NA	NA
Oct-02	<1.0	180	17	1.4	--	1.9	<1.0	1.7	<1.0	<1.0	<2.0	<2.0	2.6	<4.0	<1.0	<1.0	NA	NA	NA	NA
Oct-01	<5.0	150	14	<5.0	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<20	<20	<5.0	<5.0	NA	NA	NA	NA
Oct-00	<10	160	14	<10	--	<10	<10	<10	<10	<10	ND	ND	<10	ND	<10	<10	NA	NA	NA	NA
Oct-99	<2.0	130	18	<2.0	--	2.6	<2.0	<2.0	<2.0	ND	ND	ND	2.7	ND	<2.0	ND	NA	NA	NA	NA
Oct-98	<5.0	140	<5.0	<5.0	--	<5.0	<5.0	<5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	ND	NA	NA	NA	NA
Oct-98 Dup	<2.0	110	5.6	<2.0	--	<2.0	<2.0	<2.0	<2.0	ND	ND	ND	2.2	ND	<2.0	ND	NA	NA	NA	NA
Oct-97	<2.5	150	<2.5	<2.5	--	<2.5	<2.5	<2.5	<2.5	ND	ND	ND	<2.5	ND	<5.0	ND	NA	NA	NA	NA
Oct-96	<0.5	120	2.4	<0.5	--	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	2.8	ND	<0.5	ND	NA	NA	NA	NA
Oct-95	<1.0	100	--	--	110	5.7	<1.0	<1.0	<1.0	ND	ND	ND	5.7	ND	<1.0	ND	NA	NA	NA	NA
Oct-94	<5.0	130	--	--	<5.0	<5.0	<5.0	<5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	ND	NA	NA	NA	NA
Oct-93	<5.0	210	--	--	<5.0	<10	<5.0	<5.0	<5.0	ND	ND	ND	6.0	ND	<5.0	ND	NA	NA	NA	NA
Oct-92	<0.5	130	--	--	2.0	<1.0	<0.5	<0.5	<0.5	ND	ND	ND	NA	ND	<0.5	ND	NA	NA	NA	NA
Apr-92	<2.0	430	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	ND	ND	ND	<2.0	ND	<2.0	ND	NA	NA	NA	NA
Jan-92	<3.0	410	--	--	<3.0	<3.0	<3.0	<3.0	<3.0	ND	ND	ND	10	ND	<3.0	ND	NA	NA	NA	NA
Oct-91	<1.0	250	--	--	10	<1.0	<1.0	<1.0	<1.0	ND	ND	ND	11	ND	<1.0	ND	NA	NA	NA	NA
Jul-91	<1.0	240	--	--	19	<1.0	<1.0	<1.0	<1.0	ND	ND	ND	16	ND	<1.0	ND	NA	NA	NA	NA
<b>T-12C ZB2 (continued)</b>																				
Apr-91	<2.0	290	--	--	6.0	<2.0	<2.0	<2.0	<2.0	ND	ND	ND	7.0	ND	<2.0	ND	NA	NA	NA	NA
Jan-91	<2.0	290	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	ND	ND	ND	4.0	ND	<2.0	ND	NA	NA	NA	NA
Oct-90	<2.0	350	--	--	2.0	<2.0	<2.0	<2.0	<2.0	ND	ND	ND	14	ND	<2.0	ND	NA	NA	NA	NA
Jul-90	<2.0	460	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	ND	ND	ND	13	ND	<2.0	ND	NA	NA	NA	NA
Apr-90	<2.0	390	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	ND	ND	ND	9.0	ND	<2.0	ND	NA	NA	NA	NA
Jan-90	<2.0	440	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	ND	ND	ND	21	ND	<2.0	ND	NA	NA	NA	NA
Oct-89	<2.0	410	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	NA	ND	NA	17	ND	<2.0	NA	NA	NA	NA	NA
Aug-89	<2.0	350	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	NA	ND	NA	17	ND	<2.0	NA	NA	NA	NA	NA
Aug-89	<10	260	--	--	<10	<20	<10	<10	<10	NA	ND	NA	NA	ND	NA	NA	NA	NA	NA	NA
<b>36DD ZB2</b>																				
Oct-16	<0.50	<0.50	1.8	1.4	--	7.3	NA	<0.50	<0.50	NA	NA	NA	<0.50	NA	<0.50	NA	NA	NA	NA	NA
Oct-15	<0.5	<0.5	5.7	1.1	--	1.7	NA	<0.50	<0.50	NA	NA	NA	<0.2	NA	<0.50	NA	NA	NA	NA	NA
Oct-14	<0.5	<0.5	7.1	1.0	--	<0.5	NA	<0.5	<0.5	NA	NA	NA	<2.0	NA	<0.5	NA	NA	NA	NA	NA
Oct-13	<0.5	<0.5	11	0.9	--	1.3	NA	<0.5	<0.5	NA	NA	NA	<2.0	NA	<0.5	NA	NA	NA	NA	NA
Oct-12	<0.5	3.2	24	1.8	--	3.3	NA	<0.5	<0.5	NA	NA	NA	<2.0	NA	<0.5	NA	NA	NA	NA	NA
Oct-11	<0.5	2.6	10	1.9	--	5.5	NA	<0.5	<0.5	NA	NA	NA	<2.0	NA	<0.5	NA	NA	NA	NA	NA
Oct-10+	<0.5	<0.5	14	0.7	--	2.2	<0.5	<0.5	<0.5	NA	NA	NA	<2.0	NA	<0.5	NA	NA	NA	NA	NA
Oct-09+	<0.5	1.3	35	1.8	--	2.5	<0.5	<0.5	<0.5	NA	NA	NA	<2.0	NA	<0.5	NA	NA	NA	NA	NA
Oct-08+	<0.5	1.6	24	1.1	--	1.6	<0.5	<0.5	<0.5	NA	NA	NA	<2.0	NA	<0					

**Historical Groundwater Volatile Organic Compound Results**  
**Former TRW Microwave Site**  
**825 Stewart Drive, Sunnyvale, California**

Well Number/ Dates	PCE (µg/L)	TCE (µg/L)	cis- 1,2-DCE (µg/L)	trans- 1,2-DCE (µg/L)	Total 1,2-DCE (µg/L)	VC (µg/L)	1,1,1- TCA (µg/L)	1,1- DCE (µg/L)	1,1- DCA (µg/L)	CDM (µg/L)	Freon 11 (µg/L)	Freon 12 (µg/L)	Freon 113 (µg/L)	BFM (µg/L)	1,2- DCB (µg/L)	CBN (µg/L)	BEN (µg/L)	EBN (µg/L)	TOL (µg/L)	XYL (µg/L)
Drinking Water Standard	5	5	6	10	6	0.5	200	6	5	100	150	NE	1200	100	600	70	1	300	150	1750
<b>5DD (continued)</b>																				
Oct-89	<0.5	62	--	--	13	<0.5	<0.5	0.5	1.5	NA	ND	NA	<0.5	ND	<0.5	NA	NA	NA	NA	NA
Aug-89	<0.5	70	--	--	21	<0.5	<0.5	1.5	3.1	NA	ND	NA	<0.5	ND	<0.5	NA	NA	NA	NA	NA
May-89	<0.5	68	--	--	18	<0.5	1.1	1	2	NA	ND	NA	<0.5	ND	<0.5	NA	NA	NA	NA	NA
Feb-89	<5.0	72	--	--	16	<5.0	<5.0	<5.0	<5.0	NA	ND	NA	<5.0	ND	<5.0	NA	NA	NA	NA	NA
Nov-88	<5.0	85	--	--	25	<5.0	<5.0	<5.0	<5.0	NA	ND	NA	<5.0	ND	<5.0	NA	NA	NA	NA	NA
Aug-88	<1.0	72	--	--	43	<1.0	1.6	1.4	3.7	NA	ND	NA	4.7	ND	<1.0	NA	NA	NA	NA	NA
May-88	<0.5	68	--	--	40	<0.5	1.5	1.6	5.0	NA	ND	NA	2.6	ND	<0.5	NA	NA	NA	NA	NA
Jan-88	<0.5	38	--	--	25	<0.5	1.0	<0.5	3.4	NA	ND	NA	1.9	ND	<0.5	NA	NA	NA	NA	NA
Oct-87	<0.5	40	--	--	30	<0.5	1.4	0.7	3.0	NA	ND	NA	<0.5	ND	<0.5	NA	NA	NA	NA	NA
Jun-87	<0.5	32	--	--	38	<0.5	<0.5	<0.5	1.8	NA	ND	NA	<0.5	ND	<0.5	NA	NA	NA	NA	NA
Apr-87	<0.5	53	--	--	45	<0.5	2.8	1.3	2.2	NA	ND	NA	<0.5	ND	<0.5	NA	NA	NA	NA	NA
Jan-87	<0.5	26	--	--	16	<0.5	<0.5	<0.5	2.3	NA	ND	NA	<0.5	ND	<0.5	NA	NA	NA	NA	NA
Sep-86	<0.5	20	--	--	23	<0.5	<0.5	<0.5	1.8	NA	ND	NA	<0.5	ND	<0.5	NA	NA	NA	NA	NA
Jul-86	<0.5	27	--	--	22	<0.5	<0.5	<0.5	<0.5	NA	ND	NA	<0.5	ND	<0.5	NA	NA	NA	NA	NA
Apr-86	<0.5	27	--	--	2.4	<0.5	<0.5	<0.5	1.8	NA	ND	NA	<0.5	ND	<0.5	NA	NA	NA	NA	NA
Jan-86	<0.5	31	--	--	24	<0.5	<0.5	<0.5	<0.5	NA	ND	NA	NA	ND	<0.5	NA	NA	NA	NA	NA
Oct-85	<0.5	8.6	--	--	17	<0.5	<0.5	<0.5	<0.5	NA	ND	NA	<0.5	ND	<0.5	NA	NA	NA	NA	NA
Nov-84	<0.5	5.1	--	--	6.3	NA	<0.5	NA	NA	NA	ND	NA	NA	ND	NA	NA	NA	NA	NA	NA
Mar-84	NA	11	--	--	NA	NA	NA	NA	NA	NA	ND	NA	NA	ND	NA	NA	NA	NA	NA	NA
Aug-83	<1.0	12	--	--	1.7	ND	<1.0	<1.0	<1.0	NA	ND	NA	<1.0	ND	ND	NA	NA	NA	NA	NA
May-83	ND	990	--	--	120	ND	ND	ND	ND	NA	ND	NA	ND	ND	ND	NA	NA	NA	NA	NA
Apr-83	20	18	--	--	2	ND	18	ND	ND	NA	ND	NA	ND	ND	ND	NA	NA	NA	NA	NA

**Historical Groundwater Volatile Organic Compound Results**  
**Former TRW Microwave Site**  
**825 Stewart Drive, Sunnyvale, California**

Well Number/ Dates	PCE (µg/L)	TCE (µg/L)	cis- 1,2-DCE (µg/L)	trans- 1,2-DCE (µg/L)	Total 1,2-DCE (µg/L)	VC (µg/L)	1,1,1- TCA (µg/L)	1,1- DCE (µg/L)	1,1- DCA (µg/L)	CDM (µg/L)	Freon 11 (µg/L)	Freon 12 (µg/L)	Freon 113 (µg/L)	BFM (µg/L)	1,2- DCB (µg/L)	CBN (µg/L)	BEN (µg/L)	EBN (µg/L)	TOL (µg/L)	XYL (µg/L)
Drinking Water Standard	5	5	6	10	6	0.5	200	6	5	100	150	NE	1200	100	600	70	1	300	150	1750
<b>T-9C ZB3</b>																				
Oct-17	<0.50	<0.50	<0.50	<0.50	--	<0.50	<0.50	<0.50	<0.50	--	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	NA	NA	NA	NA
Oct-16	<0.50	<0.50	<0.50	<0.50	--	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	NA	NA	NA	NA
Oct-15	<0.50	0.52	<0.50	<0.50	--	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	NA	NA	NA	NA
Oct-14	<0.50	<0.50	0.54	<0.50	--	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	NA	NA	NA	NA
Oct-13	<0.50	<0.50	0.36 J	<0.50	--	<0.50	<0.50	<0.50	<0.50		<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	NA	NA	NA	NA
Oct-12	<0.50	5	3.7	<0.50	--	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-11	<0.50	<0.50	<0.50	<0.50	--	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-10	<0.50	0.98	2.1	<0.50	--	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-09	<0.50	78	57	2.2	--	2.8	<0.50	1.7	<0.50	<0.50	<1.0	<0.50	0.63	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-08	<0.5	43	17	0.6	--	0.66	<0.5	0.82	<0.5	<0.5	<1	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1
Oct-07	<0.5	88	36	1.4	--	1.6	<0.5	1.7	<0.5	<0.5	<1.0	<0.5	1.1	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0
Oct-06	<0.5	0.88	0.54	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA
Oct-05	<0.5	1.7	1.4	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA
Oct-04	<0.5	6.1	2.9	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<1.0	<2.0	<0.5	<0.5	NA	NA	NA	NA
Oct-03	<2.5	83	59	<2.5	--	<2.5	<2.5	<2.5	<2.5	<2.5	<5.0	<5.0	<2.5	<10	<2.5	<2.5	NA	NA	NA	NA
Oct-02	<0.5	3.1	2.4	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<0.5	<2.0	<0.5	<0.5	NA	NA	NA	NA
Oct-01	<5.0	94	65	<5.0	--	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	NA	NA	NA	NA
Oct-00	<3.0	66	43	<3.0	--	<3.0	<3.0	<3.0	<3.0	<3.0	ND	ND	<3.0	ND	<3.0	<3.0	NA	NA	NA	NA
Oct-99	<1.0	3.9	1.9	<1.0	--	<1.0	<1.0	<1.0	<1.0	ND	ND	ND	<1.0	ND	<1.0	ND	NA	NA	NA	NA
Oct-99 Dup	<1.0	4.0	1.7	<1.0	--	<1.0	<1.0	<1.0	<1.0	ND	ND	ND	<1.0	ND	<1.0	ND	NA	NA	NA	NA
Oct-98	<1.0	2.4	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	ND	ND	ND	<1.0	ND	<1.0	ND	NA	NA	NA	NA
Oct-97	<0.5	2.9	0.9	<0.5	--	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<1.0	ND	NA	NA	NA	NA
Oct-96	<0.5	25	3.8	<0.5	--	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Oct-95	<1.0	8.6	--	--	1.8	<2.0	<1.0	<1.0	<1.0	ND	ND	ND	<1.0	ND	<1.0	ND	NA	NA	NA	NA
Oct-94	<0.5	12	--	--	2	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Oct-93	<0.5	66	--	--	13	<1.0	<0.5	<0.5	<0.5	ND	ND	ND	4.9	ND	<0.5	ND	NA	NA	NA	NA
Oct-92	<0.5	8	--	--	<0.5	<1.0	<0.5	<0.5	<0.5	ND	ND	ND	NA	ND	<0.5	ND	NA	NA	NA	NA
Oct-91	<0.5	51	--	--	1	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	18	ND	<0.5	ND	NA	NA	NA	NA
Oct-90	<0.5	81	--	--	<0.5	<1.0	<0.5	<0.5	<0.5	ND	ND	ND	9.0	ND	<0.5	ND	NA	NA	NA	NA
Oct-90	<0.5	73	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	9.8	ND	<0.5	ND	NA	NA	NA	NA
Aug-89	<1.0	190	--	--	1	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	33	ND	<1.0	NA	NA	NA	NA	NA
May-88	<2.5	470	--	--	<2.5	<2.5	<2.5	<2.5	<2.5	NA	NA	NA	160	ND	<2.5	NA	NA	NA	NA	NA
Jan-88	<5.0	330	--	--	<5.0	<5.0	7.5	<5.0	<5.0	NA	NA	NA	280	ND	<5.0	NA	NA	NA	NA	NA
Jul-86	<0.5	9.2	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	32	ND	<0.5	NA	NA	NA	NA	NA
Apr-86	<0.5	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	<0.5	ND	<0.5	NA	NA	NA	NA	NA
Jan-86	<0.5	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	ND	<0.5	NA	NA	NA	NA	NA
Oct-85	<0.5	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	<0.5	ND	<0.5	NA	NA	NA	NA	NA
Jan-85	<0.5	<0.5	--	--	<0.5	NA	<0.5	NA	NA	NA	NA	NA	<0.5	ND	NA	NA	NA	NA	NA	NA

**Historical Groundwater Volatile Organic Compound Results  
Former TRW Microwave Site  
825 Stewart Drive, Sunnyvale, California**

Well Number/ Dates	PCE (µg/L)	TCE (µg/L)	cis- 1,2-DCE (µg/L)	trans- 1,2-DCE (µg/L)	Total 1,2-DCE (µg/L)	VC (µg/L)	1,1,1- TCA (µg/L)	1,1- DCE (µg/L)	1,1- DCA (µg/L)	CDM (µg/L)	Freon 11 (µg/L)	Freon 12 (µg/L)	Freon 113 (µg/L)	BFM (µg/L)	1,2- DCB (µg/L)	CBN (µg/L)	BEN (µg/L)	EBN (µg/L)	TOL (µg/L)	XYL (µg/L)
Drinking Water Standard	5	5	6	10	6	0.5	200	6	5	100	150	NE	1200	100	600	70	1	300	150	1750
<b>T-8D ZB4</b>																				
Water sampling of well T-8D was suspended in 2002.																				
Oct-01	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<2.0	<2.0	<0.5	<0.5	NA	NA	NA	NA
Oct-00	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	ND	ND	<1.0	ND	<1.0	<1.0	NA	NA	NA	NA
Oct-99	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	ND	ND	ND	<1.0	ND	<1.0	ND	NA	NA	NA	NA
Apr-99	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	ND	ND	ND	<1.0	ND	<1.0	ND	NA	NA	NA	NA
Oct-98	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	ND	ND	ND	<1.0	ND	<1.0	ND	NA	NA	NA	NA
Apr-98	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<2.0	ND	<0.5	ND	NA	NA	NA	NA
Oct-97	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<1.0	ND	NA	NA	NA	NA
Apr-97	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Oct-96	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Apr-96	<0.5	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Oct-95	<1.0	<1.0	--	--	<1.0	<2.0	<1.0	<1.0	<1.0	ND	ND	ND	<1.0	ND	<1.0	ND	NA	NA	NA	NA
Oct-94	<0.5	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Apr-94	<0.5	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Oct-93	<0.5	<0.5	--	--	<0.5	<1.0	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Apr-93	<0.5	<0.5	--	--	<0.5	<1.0	<0.5	<0.5	<0.5	ND	ND	ND	NA	ND	<0.5	ND	NA	NA	NA	NA
Oct-92	<0.5	<0.5	--	--	<0.5	<1.0	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Apr-92	<0.5	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Jan-92	<0.5	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Oct-91	<0.5	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Jul-91	<0.5	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Apr-91	<0.5	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Jan-91	<0.5	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Oct-90	<0.5	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Jul-90	<0.5	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Apr-90	<0.5	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Jan-90	<0.5	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Oct-89	<0.5	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	NA	ND	ND	<0.5	ND	<0.5	NA	NA	NA	NA	NA
Aug-89	<1.0	<1.0	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	NA	ND	ND	<1.0	ND	<1.0	NA	NA	NA	NA	NA
May-89	<0.5	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	NA	ND	ND	<0.5	ND	<0.5	NA	NA	NA	NA	NA
Feb-89	<0.5	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	NA	ND	ND	<0.5	ND	<0.5	NA	NA	NA	NA	NA
Nov-88	<0.5	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	NA	ND	ND	<0.5	ND	<0.5	NA	NA	NA	NA	NA
Aug-88	<0.5	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	NA	ND	ND	<0.5	ND	<0.5	NA	NA	NA	NA	NA
May-88	<0.5	0.6	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	NA	ND	ND	<0.5	ND	<0.5	NA	NA	NA	NA	NA
Jan-88	<0.5	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	NA	ND	ND	<0.5	ND	<0.5	NA	NA	NA	NA	NA
Oct-87	<0.5	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	NA	ND	ND	<0.5	ND	<0.5	NA	NA	NA	NA	NA
Sep-86	<0.5	2.3	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	NA	ND	ND	<0.5	ND	<0.5	NA	NA	NA	NA	NA
Jul-86	<0.5	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	NA	ND	ND	<0.5	ND	<0.5	NA	NA	NA	NA	NA
Apr-86	<0.5	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	NA	ND	ND	<0.5	ND	<0.5	NA	NA	NA	NA	NA
Jan-86	<0.5	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	NA	ND	ND	NA	ND	<0.5	NA	NA	NA	NA	NA
Oct-85	<0.5	1.1	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	NA	ND	ND	55	ND	<0.5	NA	NA	NA	NA	NA
Dec-84	<0.5	<0.5	--	--	<0.5	NA	<0.5	NA	NA	NA	ND	ND	<0.5	ND	NA	NA	NA	NA	NA	NA

**Historical Groundwater Volatile Organic Compound Results  
Former TRW Microwave Site  
825 Stewart Drive, Sunnyvale, California**

Well Number/ Dates	PCE (µg/L)	TCE (µg/L)	cis- 1,2-DCE (µg/L)	trans- 1,2-DCE (µg/L)	Total 1,2-DCE (µg/L)	VC (µg/L)	1,1,1- TCA (µg/L)	1,1- DCE (µg/L)	1,1- DCA (µg/L)	CDM (µg/L)	Freon 11 (µg/L)	Freon 12 (µg/L)	Freon 113 (µg/L)	BFM (µg/L)	1,2- DCB (µg/L)	CBN (µg/L)	BEN (µg/L)	EBN (µg/L)	TOL (µg/L)	XYL (µg/L)
Drinking Water Standard	5	5	6	10	6	0.5	200	6	5	100	150	NE	1200	100	600	70	1	300	150	1750

**Notes:**

. established by the California Department of Health Services, or if no California MCLs  
ed, then USEPA MCLs were used.

id as total 1,2-DCE prior to 1996.  
viously reported due to low levels.  
ed at the detection limit shown.  
ata provided by AMD.  
uly 1998 due to potential labeling error.  
as found in the blank and sample.  
A = Not Analyzed  
D = Not Detected  
= Not Established  
= microgram per liter  
Regional Water Quality Control Board -  
ransisco Bay Region  
3 µg/L for cis-1,2-DCE was higher than  
. When rerun with dilution of 50, the  
g/L. Initial result reported in table.

1,1,1-TCA = 1,1,1-trichloroethane  
1,1-DCA = 1,1-dichloroethane  
1,1-DCE = 1,1-dichloroethene  
1,2-DCB = 1,2-dichlorobenzene  
1,2-DCE = 1,2-dichloroethene  
BEN = Benzene  
BFM = Bromoform  
CBN = Chlorobenzene  
CDM = Chlorodibromomethane

EBN = Ethylbenzene  
Freon 11 = Trichlorofluoromethane  
Freon 12 = Dichlorodifluoromethane  
Freon 113 = 1,1,2-trichloro-1,2,2-trifluoroethane  
PCE = Tetrachloroethene  
TCE = Trichloroethene  
TOL = Toluene  
VC = Vinyl Chloride  
XYL = Total Xylenes

**Historical Groundwater General Environmental Parameter Results**  
**Former TRW Microwave Site**  
**825 Stewart Drive, Sunnyvale, California**

Well	Date	Temperature (°C)	pH (SU)	Conductivity (mS/cm)	Turbidity (NTU)	Oxidation-Reduction Potential (mV)	Dissolved Hydrogen (nM)	Alkalinity (mg/L as CaCO3)	Total Organic Carbon (mg/L)
Zone A Aquifer Wells									
36D	Apr-04	21.0	--	--	--	-299	--	--	--
	Apr-03	--	--	--	--	-263	--	--	--
	Nov-99	21.4	--	--	--	151	--	--	--
38S	Oct-17	23.2	6.98	1333	10.00	105.6	--	--	0.58 J
	Oct-16	22.3	6.87	1,271	--	-26	--	--	2.3
	Oct-15	23.2	6.91	1,237	--	39	--	--	0.57 J
	Oct-14	21.7	6.98	1,251	5	-40.1	--	--	1.8
	Oct-13	21.4	6.65	1,435	3	5.8	--	--	<1
	May-13	22.8	7.01	1,286	32.8	-75	--	--	1.3
	Oct-12	22.57	6.69	1,265	5.30	-19.1	--	--	<1.0
	Apr-12	18.96	6.94	1.26	--	-139	--	--	1.1
	Oct-11	21.80	6.92	1,366	1.2	140.6	--	--	--
	Oct-10	22.01	6.93	9,507	1.5	44.0	--	--	--
	Oct-09	20.25	--	--	--	149	--	--	--
Oct-08	21.5	--	--	--	17	--	--	--	
T-7A	Oct-17	23.5	6.93	1,416	1	194.6	--	--	--
	Oct-16	22.5	6.9	1,347	--	-45.3	--	--	--
	Oct-15	25.17	6.86	1,418	--	30	--	--	--
	Jun-15	22.8	6.89	1,372	--	-12.2	--	--	--
	Oct-14	21.7	7	1,301	1	68.1	--	--	--
	Oct-13	22.5	6.6	1.38	1	50.2	--	--	--
	Oct-12	20.88	7.01	1,472	0.0	69.1	--	--	<1.0
	Oct-11	20.54	6.91	1,535	0.0	222.0	--	--	--
	Oct-10	20.81	6.88	4.9	0.0	170.0	--	--	--
	Oct-09	21.40	7.01	1.7	30.8	115	--	--	--
	Oct-08	21.9	--	--	--	237	--	--	--
	Oct-07	21.3	7.34	0.162	202	--	--	--	--
	May-07	21.1	--	--	--	85	--	--	--
	Jan-07	18.2	6.25	1.67	--	168	--	--	--
Apr-04	18.9	--	--	--	151	--	--	--	
Jun-01	18.9	--	--	--	197	3.00	410	<5.0	
Oct-99	20.5	--	--	--	202	1.65	500	2.3	
EDUCTOR -11	Sep-14	20.4	5.62	2.46	0	14	--	--	--
	Apr-14	18.8	5.59	1,616	9	-24	--	--	634
	Oct-13	19.9	4.91	2,306	7	11.3	--	--	1,390
	May-13	20.26	5.49	3,478	9.4	-15.9	--	--	1,800
	Oct-12	20.22	5.43	3,668	9.00	-19	--	--	49
	Apr-12	18.45	5.24	3,813	--	-26.6	--	--	2,200
	Oct-11	20.40	5.48	3,806	4.0	-81.7	--	1,400	280
	May-11	--	5.57	--	--	-67.0	--	2,200	3,200
	Mar-11	--	--	--	--	--	--	2,700	3,600
	Mar-10 <sup>(a)</sup>	19.79	6.25	2.47	362	-292	--	900	570
	Oct-10 <sup>(b)</sup>	18.94	7.24	2,213	391.4	-124.4	--	--	160.0
	Oct-10 <sup>(c)</sup>	19.81	5.99	4,413	7.1	-82.8	--	960	280.0
	Oct-09	20.68	--	--	--	-136	--	--	6.2
	Oct-08	20.5	--	--	--	-220	--	--	--
	Oct-07	20.0	--	--	--	-151	--	--	18
	Apr-07	19.3	6.43	0.232	51.2	-133	--	--	18
	Oct-06	20.5	--	--	--	-162	--	--	15
	Apr-06	19.3	--	--	--	-254	--	--	26
	Jan-06	19.8	--	--	--	-144	--	--	330
	Oct-05	20.5	--	--	--	-211	--	--	26
	Sep-05	20.7	--	--	--	--	--	--	--
	Jul-05	19.9	--	--	--	-115	--	--	61
	Apr-05	18.9	--	--	--	-178	--	--	55
Jan-05	19.2	--	--	--	-239	--	--	14	
Oct-04	20.7	--	--	--	-220	--	1,800	25	
Apr-04	19.0	6.45	3.09	33	-247	--	1,600	46	
Jan-04	18.8	--	--	--	-260	--	1,200	16	
Oct-03	20.1	--	--	--	-236	--	2,100	200	

**Historical Groundwater General Environmental Parameter Results**  
**Former TRW Microwave Site**  
**825 Stewart Drive, Sunnyvale, California**

Well	Date	Temperature (°C)	pH (SU)	Conductivity (mS/cm)	Turbidity (NTU)	Oxidation-Reduction Potential (mV)	Dissolved Hydrogen (nM)	Alkalinity (mg/L as CaCO3)	Total Organic Carbon (mg/L)
EDUCTOR -11 (continued)	Jul-03	19.0	6.32	1.44	11	-87	--	6,200	8,000
	Apr-03	18.7	--	--	--	-400	--	2,200	1,700
	Jan-03	18.9	--	--	--	-77	--	2,200	2,800
	Oct-02	19.6	5.69	5.52	1	4.7	120	6,200	3,700
	Jul-02	19.2	--	--	--	-160	2,800	2,900	1,800
	Mar-02	19.7	--	--	--	-32	480	3,300	5,900
	Jan-02	19.0	--	--	--	-37	2,100	770	21,000
	Nov-01	19.5	--	--	--	-66	3,000	2,300	8,000
	Oct-01	21.2	4.85	5.22	147	-20	4,000	690	24,000
	Aug-01	21.0	4.92	4.17	22	-125	56,000	1,000	5,900
	Jun-01	19.6	6.93	1.44	0	-162	3.20	590	10
	Mar-01	18.9	7.06	1.46	20	-300	--	--	--
	Jan-01	24.4	7.01	1.45	4	-73	--	--	--
Nov-99	21.3	7.02	1.46	0	200	0.96	470	<2.0	
T-2A	Sep-14	20.44	6.84	2.37	0	-84	--	--	6.5
	Apr-14	19.2	6.79	2.112	4	-84	--	--	6.4
	Oct-13	19.8	6.36	1.877	2	-117.5	--	--	5.9
	May-13	20.34	7.31	2.283	57.9	-137	--	--	8.1
	May-13 Dup	20.34	7.31	2.283	57.9	-137	--	--	7.7
	Oct-12	20.03	6.73	2.252	2.1	-123.2	--	--	6.5
	Apr-12	18.66	6.97	1.958	--	-87.9	--	--	7.6
	Oct-11	20.16	6.65	2.339	2.2	-145.6	--	1,100	4.8
	May-11	--	--	--	--	--	--	960	28
	Mar-11	--	--	--	--	--	--	860	180
	11/15/2010 <sup>(a)</sup>	19.9	6.73	0.82	225	-303	--	790	120
	10/20/2010 <sup>(b)</sup>	19.91	6.65	1.655	773.4	-55.7	--	--	340
	10/12/2010 <sup>(c)</sup>	20.19	6.66	2.006	0.0	-88.5	--	980	4.8
	Oct-09	20.64	6.81	2.5	4.3	-76	--	--	3.1 J
	Oct-08	20.7	7.02	0.19	48.6	-58	--	--	--
	Oct-07	20.7	6.49	2.41	8.6	-144	--	--	--
	Apr-07	19.4	6.18	0	131	-60	--	--	--
	Oct-06	19.6	7.72	2.12	202	-155	--	--	--
	Apr-06	19.5	6.86	1.82	580	-101	--	--	--
	Jan-06	20.0	6.78	0.257	13	-175	--	--	--
	Oct-05	20.7	7.06	2.03	410	-199	--	--	--
	Jul-05	20.2	6.41	2.62	--	-139	--	--	24
	Apr-05	19.1	6.67	2.2	235	-99	--	--	32
	Jan-05	19.2	6.74	2.58	16	-199	--	--	7.0
	Oct-04	20.7	6.51	2.82	--	-116	--	1,500	16
	Apr-04	19.3	6.54	2.37	7	-213	--	1,400	17
	Jan-04	19.3	6.32	2.33	0	-242	--	1,100	12
	Oct-03	20.2	6.79	2.53	21	-118	--	1,400	13
	Jul-03	19.2	7.11	2.51	35	-129	--	1,600	17
	Apr-03	18.9	6.65	2.39	0	-387	--	1,200	28
	Jan-03	18.6	6.82	2.68	5	-122	--	1,700	45
	Oct-02	19.6	6.48	3.79	53	-112	8	2,700	840
	Jul-02	19.2	6.40	4.227	--	-150	27	2,000	360
Apr-02	19.3	6.53	3.13	48	-150	5.2	2,400	490	
Jan-02	--	--	--	--	--	--	--	--	
Nov-01	19.8	6.62	2.43	67	-85	11	1,200	1,100	
Oct-01	20.9	6.27	2.8	19	-103	15	1,700	460	
Aug-01	21.1	6.24	2.78	1	-127	29	330	410	
Jun-01	19.7	6.71	2.21	9	-121	12	1,900	1,600	
Mar-01	18.3	6.39	2.33	105	-221	580	820	150	
Jan-01	19.0	6.11	1.91	25	-324	190	840	410	
Nov-99	21.0	6.77	1.49	0	181	22.8	500	4.1	

**Historical Groundwater General Environmental Parameter Results**  
**Former TRW Microwave Site**  
**825 Stewart Drive, Sunnyvale, California**

Well	Date	Temperature (°C)	pH (SU)	Conductivity (mS/cm)	Turbidity (NTU)	Oxidation-Reduction Potential (mV)	Dissolved Hydrogen (nM)	Alkalinity (mg/L as CaCO3)	Total Organic Carbon (mg/L)
T-3A	Sep-14	20.46	7.15	1.43	0.0	152	--	--	--
	Apr-14	19.6	6.98	1.376	1	-20	--	--	--
	Oct-13	20	6.71	1.303	1	134.9	--	--	--
	Oct-12	20.66	6.90	1.445	0.0	122.3	--	--	--
	Oct-11	20.39	6.93	1.666	0.2	222.3	--	--	--
	Oct-10	20.10	6.90	5.499	0.0	80.2	--	--	--
	Oct-09	20.10	7.44	1.68	5	1.67	--	--	--
	Oct-08	21.5	7.47	0.13	0	214	--	--	--
T-8A	Oct-17	22.0	6.94	1.404	1	59.6	--	--	0.99 J
	Oct-16	21.3	6.78	1.24	--	34.3	--	--	0.76 J
	May-16	20.2	6.67	1.32	2	38.7	--	--	1.1
	Oct-15	22.3	6.88	1.33	--	17	--	--	0.53 J
	Jun-15	24.6	6.92	1.378	--	24.5	--	--	0.68 J
	Oct-14	22.5	6.9	1.314	1	65.3	--	--	1
	Apr-14	19	6.9	1.377	5	-28	--	--	1
	Oct-13	19.6	6.63	1.313	2	190.6	--	--	<1
	May-13	22.48	6.59	1.431	26.8	63	--	--	1.2
	Oct-12	21.24	6.89	1.41	0	69	--	--	<1.0
	Apr-12	19.73	6.86	1.362	--	12.8	--	--	0.66 J
	Oct-11	20.50	6.87	1.538	0.2	192.4	--	--	<1.0
	Oct-10	20.40	6.85	1.546	0.0	33.1	--	--	<1.0
	Apr-10	18.98	6.97	1.32	24.5	-33	--	--	<5.0
	Oct-09	23.1	6.71	1.69	9.8	-69	--	--	<5.0
	Feb-09	18.5	7.31	1.61	2.3	-69	--	--	--
	Oct-08	21.8	6.98	1.87	--	-240	--	--	--
	Oct-07	22.2	7.03	0.159	8.1	-300	--	--	<5.0
	Apr-07	21.3	6.73	1.55	21.9	19	--	--	<5.0
	Jan-07	19.4	6.33	1.6	--	21	--	--	<5.0
	Oct-06	22.3	6.52	0.151	10	-101	--	--	<5.0
	Jul-06	22.4	6.59	0.156	12	8	--	--	<5.0
	Apr-06	19.1	6.69	1.37	13	-389	--	--	<5.0
	Jan-06	19.2	6.99	0.15	10	-176	--	--	<5.0
	Oct-05	22.1	6.55	1.61	0	-100	--	--	<5.0
	Jul-05	21.4	6.68	1.35	--	79	--	470	6.9
	Apr-05	20.0	6.98	1.44	849	77	--	--	--
	Oct-04	21.5	6.28	1.45	0	-138	--	--	--
	Apr-04	19.8	6.75	1.41	0	92	--	480	--
	Jan-04	19.6	6.50	1.46	0	170	--	420	--
	Oct-03	20.8	6.92	1.44	5	109	--	--	--
	Jul-03	20.4	7.18	1.46	0	86	--	--	--
	Apr-03	18.9	6.86	1.46	0	58	--	--	--
Jan-03	18.9	6.89	1.4	0	143	--	--	--	
Oct-02	20.5	6.93	1.33	11	67	11	480	<5.0	
Jul-02	20.5	6.22	2	--	316	13	450	<5.0	
Mar-02	19.3	7.01	1.69	9	59	7.9	440	<5.0	
Jan-02	18.9	6.77	1.35	6	73.5	1.1	510	<5.0	
Nov-01	20.0	6.96	1.31	4	-116	220	450	<5.0	
Oct-01	21.0	6.35	1.4	10	77	3.90	470	6.4	
Aug-01	20.1	6.71	1.45	0	140	1.10	560	<5.0	
Jun-01	21.5	6.86	1.49	0	141	3.20	510	<5.0	
Mar-01	18.9	7.00	1.44	151	17	--	--	--	
Jan-01	18.8	6.57	1.44	11	-311	--	--	--	
Oct-99	21.5	5.78	1.44	1	124	1.36	510	2.2	

**Historical Groundwater General Environmental Parameter Results**  
**Former TRW Microwave Site**  
**825 Stewart Drive, Sunnyvale, California**

Well	Date	Temperature (°C)	pH (SU)	Conductivity (mS/cm)	Turbidity (NTU)	Oxidation-Reduction Potential (mV)	Dissolved Hydrogen (nM)	Alkalinity (mg/L as CaCO3)	Total Organic Carbon (mg/L)
T-9A	Oct-17	21.8	6.92	1.348	1	173.4	--	--	--
	Oct-16	22.6	6.82	1.291	--	-33.3	--	--	--
	Oct-15	21.8	6.82	1.32	--	109.1	--	--	--
	Oct-14	23.8	6.92	1.329	1	56.5	--	--	--
	Oct-13	22.1	6.59	1.315	1	96.8	--	--	--
	Oct-12	22.03	6.84	1.415	0.0	-77.1	--	--	0.055 J
	Oct-11	21.53	6.81	1.506	0.0	234.0	--	--	--
	Oct-10	22.68	6.84	1.547	0.0	35.9	--	--	--
	Oct-09	21.89	6.59	1.66	2	49	--	--	--
	Oct-08	22.9	6.7	215	--	-131	--	--	--
	Oct-07	22.6	6.59	2.18	13	140	--	--	--
	May-07	20.7	6.82	1.56	-2	6.7	--	--	--
	Jan-07	20.2	6.36	1.57	--	92	--	--	--
	Oct-06	21.6	6.60	1.5	66	145	--	--	--
	Jul-06	20.6	6.74	0.145	113	69	--	--	--
	Apr-06	19.9	6.60	1.39	70.1	-221	--	--	--
	Jan-06	21.0	6.99	1.28	108	25	--	--	--
	Oct-05	22.5	6.91	1.46	724	88	--	--	<5.0
	Jul-05	20.8	6.37	1.34	--	126	--	470	11
	Apr-05	19.6	6.96	1.28	467	48	--	--	--
Jan-05	20.7	6.92	1.36	503	65	--	--	--	
Oct-04	23.1	6.80	1.49	0	119	--	--	--	
Apr-04	19.2	6.75	1.65	7	144	--	490	--	
Jan-04	20.0	6.54	1.4	0	194	--	420	--	
T-13A	Oct-17	20.3	6.93	1.400	2	153.4	--	--	0.52 J
	Oct-16	20.1	6.81	1.271	--	-53.4	--	--	1.1
	May-16	20.5	6.87	1.347	6	-12.3	--	--	1.1
	Oct-15	21.5	6.86	1.133	--	-55	--	--	0.74 J
	Jun-15	21.8	6.86	1.393	--	-77	--	--	0.94 J
	Oct-14	20.6	6.93	1.332	4	-59.4	--	--	2.1
	Apr-14	19.6	6.9	1.309	12	-90	--	--	1.7
	Oct-13	20.6	6.85	1.418	52	-79.1	--	--	1.2
	May-13	20.41	7.02	1.412	55.1	-133	--	--	2.4
	May-13 Dup	20.41	7.02	1.412	55.1	-133	--	--	3.2
	Oct-12	20.4	6.60	1.48	3.4	-105.6	--	--	6.6
	Apr-12	18.9	6.41	1.552	--	-113	--	--	14
	Oct-11	19.60	6.79	1.524	0.0	-23	--	--	1.0
	Oct-10	19.24	6.75	1.538	0.0	-119	--	--	1.0
	Apr-10	18.57	6.77	1.47	23.4	-108	--	--	0.8 J
	Oct-09	20.28	6.53	1.77	1.8	-110	--	--	2.3 J
	Feb-09	19.02	7.09	1.93	65.2	-102	--	--	--
Oct-08	20.4	7.15	0.32	325	-181	--	--	37	

**Historical Groundwater General Environmental Parameter Results  
Former TRW Microwave Site  
825 Stewart Drive, Sunnyvale, California**

Well	Date	Temperature (°C)	pH (SU)	Conductivity (mS/cm)	Turbidity (NTU)	Oxidation-Reduction Potential (mV)	Dissolved Hydrogen (nM)	Alkalinity (mg/L as CaCO3)	Total Organic Carbon (mg/L)
T-13A (continued)	Oct-07	20.5	6.10	2.24	259	-152	--	--	410
	Jul-07	20.4	6.70	0.134	9.9	236	--	--	<5.0
	Apr-07	20.2	6.38	1.69	--	145	--	--	<5.0
	Jan-07	20.4	6.39	1.72	--	65	--	--	<5.0
	Oct-06	20.6	5.86	0.17	10	188	--	--	<5.0
	Jul-06	20.8	6.23	0.154	5	199	--	--	<5.0
	Apr-06	20.0	6.98	0.721	38	111	--	--	<5.0
	Jan-06	20.2	6.97	0.158	0	244	--	--	<5.0
	Nov-05	21.0	6.43	1.48	0	248	--	510	6.5
T-14A	Oct-17	20.1	6.89	1.333	3	172.4	--	--	0.48 J
	Oct-16	20	6.79	1.231	--	-84.5	--	--	1
	Oct-15	22.0	6.84	1.278	--	-56	--	--	0.68 J
	Oct-14	19.5	6.91	1.256	2	-68.6	--	--	1.2
	Apr-14	18.5	6.9	1.338	7	-92.5	--	--	1.2
	Oct-13	18.2	6.67	1.232	4	-109.9	--	--	<1
	May-13	20.1	7.21	1.393	31.2	-151	--	--	1.6
	Oct-12	20.51	6.63	1.363	3.9	-79.8	--	--	--
	Apr-12	17.8	6.71	1.413	--	-117	--	--	6.6
	Oct-11	20.03	6.77	1.455	0.9	91	--	--	1.2
	Oct-10	19.99	6.87	4.45	4.7	-170	--	--	1.2
	Apr-10	18.36	6.80	1.51	252.0	-110	--	--	1.3 J
	Oct-09	20.65	7.43	1.72	41.8	-154	--	--	8.0
	Feb-09	18.82	7.14	1.4	50.2	-89	--	--	--
	Oct-08	21.0	6.66	243	--	-466	--	--	22
	Oct-07	20.9	6.01	2.03	71.5	-163	--	--	430
	Jul-07	21.1	6.87	0.133	9.4	141	--	--	<5.0
	Apr-07	24.6	6.45	1.46	--	124	--	--	<5.0
	Oct-06	20.5	6.71	0.151	10	51	--	--	<5.0
	Apr-06	20.2	6.91	1.51	44	80	--	--	<5.0
Jan-06	19.1	6.92	0.161	0	150	--	--	<5.0	
Nov-05	20.6	6.37	1.44	36	242	--	490	5.4	
T-15A	Oct-17	22.2	6.88	1.329	3	154.6	--	--	--
	Oct-16	26.1	6.85	1.303	--	-51.4	--	--	--
	Oct-15	22.8	6.83	1.319	--	27	--	--	--
	Oct-14	21.2	6.91	1.277	1	93.6	--	--	--
	Apr-14	20.5	6.88	1.358	2	-33	--	--	<1
	Oct-13	21.4	6.55	1.282	4	170.9	--	--	--
	May-13	22.05	6.47	1.444	101	114	--	--	1.3
	Oct-12	22.0	6.47	1.366	0	6.47	--	--	1.6
	Apr-12	19.8	6.81	1.337	--	94	--	--	0.98 J
	Oct-10	21.27	6.84	1.489	0.0	63	--	--	--
	Oct-09	21.27	6.64	1.61	27.9	34	--	--	<5.0
	Oct-08	22.6	7.22	0.18	24.9	64	--	--	<5.0
	Oct-07	22.3	6.62	2.03	205	15	--	--	<5.0
	Jul-07	22.2	7.16	0.13	27.4	135	--	--	<5.0
	May-07	19.9	6.89	0.121	504	60	--	--	<5.0
	Jan-07	20.1	6.37	1.64	--	69	--	--	<5.0
	Oct-06	21.4	6.77	0.147	10	-15	--	--	<5.0
	Jul-06	22.3	6.64	0.147	215	-23	--	--	<5.0
	Apr-06	20.3	7.02	0.901	466	-104	--	--	<5.0
	Jan-06	20.3	7.00	0.164	54	-188	--	--	<5.0
Nov-05	21.5	6.44	1.46	90	-125	--	580	<5.0	

**Historical Groundwater General Environmental Parameter Results**  
**Former TRW Microwave Site**  
**825 Stewart Drive, Sunnyvale, California**

Well	Date	Temperature (°C)	pH (SU)	Conductivity (mS/cm)	Turbidity (NTU)	Oxidation-Reduction Potential (mV)	Dissolved Hydrogen (nM)	Alkalinity (mg/L as CaCO3)	Total Organic Carbon (mg/L)
T-16A	Oct-17	24.5	6.89	1.346	7	175.6	--	--	--
	Oct-16	20.4	6.63	1.221	--	54.4	--	--	--
	Oct-15	21.9	6.84	1.286	--	-45	--	--	--
	Oct-14	22.4	6.92	1.293	6	79.8	--	--	--
	Oct-13	21	6.58	1.275	26	149.2	--	--	--
	Oct-12	22.02	6.71	1.384	0.1	115.5	--	--	--
	Oct-11	21.35	6.80	1.479	-0.7	274.7	--	--	--
	Oct-10	21.26	6.82	2.996	3.1	139.7	--	--	--
	Oct-09	22.7	6.24	1.72	6	15	--	--	<5.0
	Oct-08	24.0	6.73	212	--	-135	--	--	<5.0
	Oct-07	21.8	7.06	0.15	567	-34	--	--	<5.0
	May-07	20.5	6.86	0.99	78	51	--	--	<5.0
	Oct-06	22.3	6.87	0.15	526	-57	--	--	<5.0
	Apr-06	20.3	7.03	1.43	582	-105	--	--	<5.0
Jan-06	20.7	6.96	1.42	224	-107	--	--	<5.0	
Nov-05	22.0	6.41	1.48	15	-101	--	590	7.6	
T-17A	Oct-17	20.2	6.98	1.315	4	144.6	--	--	0.53 J
	Oct-16	21.6	7.02	1.281	--	-60.5	--	--	0.77 J
	May-16	20.1	6.82	1.265	4	-8.1	--	--	0.87 J
	Oct-15	25.3	6.88	1.234	--	6	--	--	0.52 J
	Jun-15	21.3	7.12	1.350	--	-39	--	--	0.62 J
	Oct-14	21.1	7.23	1.286	4	-47.1	--	--	1.1
	Apr-14	19.6	7.02	1.258	6	-42	--	--	<1
	Oct-13	20.4	6.79	1.231	2	-30.5	--	--	<1
	May-13	20.79	6.46	1.308	38.1	170	--	--	1.1
	Oct-12	21.1	6.87	1.313	4.9	147.6	--	--	<1.0
	Apr-12	18.2	6.91	1.195	--	61.2	--	--	0.63 J
	Nov-11	18.2	7.3	--	--	-58	--	--	3
Nov-11	18.80	7.7	--	--	-25	--	--	0.71 J	
T-19A	Oct-17	22.7	6.97	1.353	2.0	-31.0	--	--	1.3
	Oct-16	22.60	6.9	1.29	--	-80.4	--	--	1.5
	May-16	20.90	7.0	1.231	33.0	-97	--	--	2
	Oct-15	22.60	6.9	1.323	--	-112	--	--	1.6
	Jun-15	21.20	6.9	1.317	--	-92	--	--	1.8
	Oct-14	21.6	6.82	1.346	4	-119.1	--	--	3.2
	Apr-14	16	6.86	1.024	7	-96	--	--	3.6
	Oct-13	21.7	6.67	1.542	11	-105.2	--	--	4.4
	May-13	19.07	7.09	1.519	30.1	-159	--	--	5.4
	Oct-12	21.14	6.59	2.042	11	-136.4	--	--	12
	Apr-12	16.83	6.56	2.056	--	-141	--	--	16
	Oct-11	21.15	6.88	1.326	0.6	-133	--	--	5.5
	Oct-10	19.98	6.81	4.452	0.0	-120	--	--	5.5
	Apr-10	14.80	6.90	0.714	7.2	-137	--	--	7.6
	Oct-09	22.67	6.84	1.8	2	-120	--	--	5.1
	Feb-09	15.76	7.00	1.46	0.0	-94	--	--	--
Oct-08	22.4	6.49	498	--	-344	--	--	24	
Oct-07	22.0	5.47	6.13	404	-136	--	--	3,500	
Sep-07	20.9	7.04	1.56	146	36	--	--	<5.0	
T-23A	Oct-17	20.3	6.93	1.413	2	115.9	--	--	0.53 J
	Oct-16	18.8	6.86	1.222	--	-34	--	--	1.2
	May-16	20.3	6.84	1.306	7	-36.7	--	--	1.1
	Oct-15	21.9	6.90	1.354	--	-84	--	--	0.85 J
	Jun-15	20.4	6.96	1.409	--	-64	--	--	0.89 J
	Oct-14	20.4	6.94	1.35	9	-99	--	--	3.5
	Apr-14	18.1	6.89	1.39	11	-123	--	--	1.7
	Oct-13	20.5	6.69	1.523	847	-108	--	--	3.6
	May-13	20.28	7.06	1.484	51.5	-147	--	--	3.3
	Oct-12	19.8	6.61	1.49	18.9	-91.9	--	--	6.8
	Apr-12	18.0	6.49	1.71	--	-123	--	--	34
	Oct-11	19.76	6.85	1.61	0.5	-16	--	--	1.1
Oct-10	19.12	6.79	1.57	0.0	-82	--	--	1.1	

**Historical Groundwater General Environmental Parameter Results**  
**Former TRW Microwave Site**  
**825 Stewart Drive, Sunnyvale, California**

Well	Date	Temperature (°C)	pH (SU)	Conductivity (mS/cm)	Turbidity (NTU)	Oxidation-Reduction Potential (mV)	Dissolved Hydrogen (nM)	Alkalinity (mg/L as CaCO3)	Total Organic Carbon (mg/L)
T-23A (continued)	Apr-10	17.15	6.70	1.51	34.5	-144	--	--	1.3 J
	Oct-09	20.02	7.60	1.79	6.1	-141	--	--	15
	Feb-09	18.8	7.13	1.73	32.5	-89	--	--	--
	Oct-08	20.1	6.73	0.423	--	-444	--	--	19
	Oct-07	20.3	6.65	0.19	593	-230	--	--	190
	Sep-07	20.6	7.12	1.46	163	105	--	--	<5.0
T-25A	Oct-17	21.7	6.89	1.330	5	173.8	--	--	0.46 J
	Oct-16	21.4	6.83	1.240	--	-42	--	--	0.75 J
	May-16	20.7	6.79	1.355	30	39.7	--	--	0.85 J
	Oct-15	22.1	6.84	1.272	--	-35	--	--	0.54 J
	Jun-15	20.7	6.82	1.350	--	-20	--	--	0.70 J
	Oct-14	20.9	6.95	1.266	2	-67.2	--	--	1.2
	Apr-14	19.2	6.91	1.341	13	-97	--	--	1
	Oct-13	19.3	6.57	1.252	3	-90.2	--	--	<1
	May-13	21.76	7.29	1.41	150	-101	--	--	1.4
	Oct-12	20.86	6.54	1.37	1.1	-81.2	--	--	1.5
	Apr-12	19.1	6.76	1.31	--	-138.2	--	--	1.5
	Oct-11	20.33	6.74	1.46	1.4	299.5	--	--	<1.0
	Oct-10	20.06	6.87	6.54	12.1	-24.6	--	--	<1.0
	Apr-10	18.11	6.80	1.57	107.0	-87	--	--	0.8 J
	Oct-09	21.61	6.69	1.63	3.4	-101	--	--	<5.0
	Feb-09	18.35	7.20	1.57	16.1	-86	--	--	--
	Oct-08	22.0	7.18	0.19	17.2	-129	--	--	<5.0
Oct-07	21.4	6.89	0.14	398	-155	--	--	24	
Sep-07	21.7	7.03	1.59	144	0.71	--	--	<5.0	

**Historical Groundwater General Environmental Parameter Results**  
**Former TRW Microwave Site**  
**825 Stewart Drive, Sunnyvale, California**

Well	Date	Temperature (°C)	pH (SU)	Conductivity (mS/cm)	Turbidity (NTU)	Oxidation-Reduction Potential (mV)	Dissolved Hydrogen (nM)	Alkalinity (mg/L as CaCO3)	Total Organic Carbon (mg/L)
Zone B1 Aquifer Wells									
T-7B	Oct-17	20.0	7.17	1024	1	232.4	--	--	--
	Oct-16	21.5	7.81	0.851	--	6.9	--	--	--
	May-16	19.2	7.32	1.048	2	73	--	--	--
	Oct-15	27.7	7.55	0.958	--	162	--	--	--
	Jun-15	22.2	7.26	0.995	--	14	--	--	--
	Oct-14	20.7	7.19	1.017	1	83	--	--	--
	Oct-13	20.4	6.83	1.024	3	111.4	--	--	--
	Oct-12	20.79	7.02	1.09	1.1	131.1	--	--	<1.0
	Oct-11	21.03	7.15	1.08	9.6	66.7	--	--	--
	Oct-10	21.21	7.10	1.11	0.0	77.8	--	--	--
	Oct-09	20.06	6.92	1.12	46.8	101	--	--	--
	Oct-08	19.7	7.67	0.111	6.7	--	--	--	--
	Aug-01	19.1	6.88	1.17	0	9	2.2	360	5.6
	Jun-01	19.2	7.33	1.27	0	147	3.3	380	5.3
	Apr-01	19.4	6.92	1.19	30	-125	2.7	360	<2.0
	Feb-01	18.9	7.64	0.91	--	-163	0.96	160	18
	Dec-00	18.4	7.82	0.37	5	-215	10	130	11
Nov-00	17.4	6.31	0.33	1	158	2.6	88	43	
Sep-00	19.9	6.60	1.16	2	-230	--	350	2.3	
Oct-99	19.3	8.74	0.41	0	75	1.19	330	2.1	
T-2B	Sep-14	19.91	7.01	1.77	0	-125	--	--	--
	Apr-14	19.4	6.77	1.723	5	-122	--	--	1.9
	Oct-13	19.3	6.49	1.449	2	-125.8	--	--	<1
	May-13	20.68	7.18	1.501	123	-111	--	--	1.5
	Oct-12	20.08	6.95	1.49	0	-119.7	--	--	0.11 J
	Apr-12	19.09	6.98	1.51	--	-105	--	--	1.2
	Oct-11	19.92	6.88	1.57	0.1	-131.5	--	510	<1.0
	May-11	--	--	--	--	--	--	500	1.4 J
	11/15/2010 <sup>(a)</sup>	19.6	6.94	1.62	81.4	-118	--	540	27.0
	10/20/2010 <sup>(b)</sup>	19.71	6.77	1.54	170.7	-95	--	--	57.0
	10/12/2010 <sup>(c)</sup>	20.00	6.82	1.53	7.7	-108	--	490	<1.0
	Oct-09	20.56	6.65	2.03	3.1	-138	--	--	--
	Oct-08	20.4	6.86	--	--	-437	--	--	--
	Oct-07	20.0	7.11	0.146	144	-146	--	--	--
	Apr-07	19.7	6.84	0.13	5.9	-117	--	--	--
	Oct-06	19.0	7.78	1.58	331	-160	--	--	--
	Apr-06	20.0	6.99	1.56	58	-127	--	--	--
	Jan-06	19.6	6.84	0.19	92	-170	--	--	--
	Oct-05	20.1	7.19	1.68	11	-90	--	--	<5.0
	Jul-05	20.1	6.54	1.83	--	-152	--	--	20
	Apr-05	19.7	6.77	1.96	20	-146	--	--	28
	Jan-05	19.4	6.76	2.02	3	-163	--	--	<1.0
	Oct-04	20.7	6.54	2.34	0	-175	--	1,200	6.0
	Apr-04	19.3	6.62	2.31	3	-191	--	1,200	11
	Jan-04	19.3	6.47	2.54	0	-195	--	1,200	6.0
	Oct-03	20.0	6.76	2.60	20	-149	--	1,300	5.7
	Jul-03	19.4	7.05	2.60	32	-144	--	1,600	8.2
	Apr-03	19.1	6.73	2.61	10	-148	--	1,400	5.6
	Jan-03	18.5	6.89	2.83	3	-144	--	1,700	13
	Oct-02	19.8	6.79	2.98	286	-140	5.3	2,100	140
	Jul-02	19.6	6.55	2.79	--	-168	28	1,600	300
	Apr-02	18.4	6.38	3.69	40	-120	1.9	2,000	960
Jan-02	19.3	6.45	3.52	56	-104	8.3	1,700	840	
Oct-01	20.2	6.12	3.86	16	-110	36	2,400	1,600	
Aug-01	21.0	6.07	3.41	0	-101	79	2,100	1,300	
Jun-01	19.6	6.95	1.47	0	-150	5.6	690	11	

**Historical Groundwater General Environmental Parameter Results  
Former TRW Microwave Site  
825 Stewart Drive, Sunnyvale, California**

Well	Date	Temperature (°C)	pH (SU)	Conductivity (mS/cm)	Turbidity (NTU)	Oxidation-Reduction Potential (mV)	Dissolved Hydrogen (nM)	Alkalinity (mg/L as CaCO3)	Total Organic Carbon (mg/L)
T-2B (continued)	Apr-01	19.6	6.66	1.55	46	-159	7.1	670	95
	Feb-01	20.4	6.85	1.50	--	-192	6	120	180
	Dec-00	19.7	6.52	2.11	75	-239	41	1,000	390
	Nov-00	20.6	6.57	1.57	20	-341	240	680	220
	Oct-00	21	6.92	1.41	11	-18	110	480	<2.0
	Nov-99	21.3	7.01	1.43	0	-6	1.65	470	4.10
T-5B	Oct-17	20.8	7.23	1.103	1	217.6	--	--	--
	Oct-16	21.5	7.56	0.927	--	9.7	--	--	--
	Oct-15	24.2	7.15	1.145	--	278	--	--	--
	Oct-14	20.7	7.25	1.107	1	149.8	--	--	--
	Oct-13	21.5	6.88	1.15	3	95.8	--	--	--
	Oct-12	21.05	7.11	1.23	0.0	76.9	--	--	--
	Oct-11	22.57	7.18	1.21	3.9	83.5	--	--	--
	Oct-10	21.33	7.11	1.237	0.0	107.1	--	--	--
	Oct-09	20.73	7.11	1.26	0.5	50	--	--	--
Oct-08	20.0	7.69	0.118	5.9	--	--	--	--	
T-8B	Oct-17	20.9	7.04	1.347	9	137.6	--	--	--
	Oct-16	21.2	7.38	1.259	--	-92.1	--	--	--
	May-16	20.2	7.11	1.417	2	-53	--	--	--
	Oct-15	24.8	7.27	0.880	--	-138	--	--	--
	Jun-15	22.3	6.94	1.378	--	-94	--	--	--
	Oct-14	20.8	7.02	1.339	1	-64.4	--	--	--
	Oct-13	20.6	6.63	1.338	10	-75.6	--	--	--
	Oct-12	21.73	6.77	1.432	15.6	-61.4	--	--	<1.0
	Oct-11	20.13	6.90	1.515	9.0	59.4	--	--	--
	Oct-10	20.60	6.90	6.2	0.4	-57.0	--	--	--
	Oct-09	24.31	6.42	1.55	41	-64	--	--	<5.0
	Oct-08	22.0	6.78	199	--	-180	--	--	--
	Oct-07	21.9	6.68	2.87	186	-112	--	--	<5.0
	Apr-07	24.5	6.62	1.35	9	-56	--	--	<5.0
	Jan-07	20.0	6.36	1.65	--	-76	--	--	<5.0
	Oct-06	20.7	6.75	1.38	217	-158	--	--	<5.0
	Jul-06	22.4	6.65	0.15	43	-113	--	--	<5.0
	Apr-06	20.1	6.65	1.56	32	-230	--	--	<5.0
	Jan-06	19.6	6.95	1.35	93	-114	--	--	--
	Oct-05	21.4	6.84	1.51	0	-96	--	--	<5.0
	Jul-05	21.7	6.64	1.43	--	-59	--	500	8.3
	Apr-05	20.1	6.95	1.41	351	-83	--	--	--
	Oct-04	23.2	6.15	1.5	36	-161	--	--	--
	Apr-04	21.6	6.83	1.4	15	-23	--	--	--
	Oct-03	20.5	6.94	1.5	14	-30	--	--	--
	Jul-03	20.2	7.48	1.51	26	-40	--	--	--
	Apr-03	19.6	6.90	1.16	9	-83	--	--	--
	Jan-03	19.3	6.72	1.4	0	-35	--	--	--
	Oct-02	20.4	6.91	1.41	143	-72	6.1	550	<5.0
	Jul-02	20.0	6.39	2	--	322	2000	500	<5.0
	Mar-02	19.6	6.97	1.46	24	20	23	500	<5.0
	Jan-02	18.8	6.79	1.48	18	-75	33	590	<5.0
	Oct-01	21.5	6.09	1.39	22	77	11	510	<5.0
Aug-01	20.4	6.64	1.43	0	-101	16	550	6.3	
Jun-01	22.8	6.81	1.59	0	-42	3.5	480	<5.0	
Apr-01	20.0	6.64	1.58	40	-133	140	610	3.6	
Feb-01	19.4	7.02	1.336	--	-186	11	74	<2.0	
Dec-00	19.8	7.02	1.59	7	-306	3.5	720	11	
Nov-00	20.1	6.60	1.42	1	-264	95	570	6.6	
Oct-00	21.5	6.82	1.46	10	180	290	500	4.1	
Oct-99	22.1	5.77	1.5	0	130	1.09	500	3.1	

**Historical Groundwater General Environmental Parameter Results**  
**Former TRW Microwave Site**  
**825 Stewart Drive, Sunnyvale, California**

Well	Date	Temperature (°C)	pH (SU)	Conductivity (mS/cm)	Turbidity (NTU)	Oxidation-Reduction Potential (mV)	Dissolved Hydrogen (nM)	Alkalinity (mg/L as CaCO3)	Total Organic Carbon (mg/L)
T-9B	Oct-17	20.7	7.12	1.408	1	172.6	--	--	--
	Jan-17	20.4	7.17	1.337	1	237.9	--	--	--
	Jan-17	19.84	7.19	1.279	1	223.9	--	--	--
	Oct-16	18.6	8.37	0.885	--	-130.4	--	--	--
	May-16	27.1	7.16	1.454	1	78	--	--	--
	Oct-15	24.6	7.20	0.871	--	143	--	--	--
	Jun-15	21.8	6.98	1.412	--	17	--	--	--
	Oct-14	19.9	7.09	1.403	1	234	--	--	--
	Oct-13	25.1	6.76	1.471	1	99.4	--	--	--
	Oct-12	20.95	6.94	1.585	1.1	42.8	--	--	<1.0
	Oct-11	20.60	7.06	1.547	0.0	-131.8	--	--	--
	Oct-10	21.53	7.04	1.591	0.0	-168.6	--	--	--
	Oct-09	20.39	6.92	1.43	25.8	-55	--	--	--
Oct-08	20.4	7.57	0.127	0	--	--	--	--	
T-10B	Oct-17	23.6	6.89	1.42	2	146.2	--	--	--
	Oct-16	20.5	6.71	397	--	-38.3	--	--	--
	Oct-15	24.9	7.55	0.341	--	-159	--	--	--
	Oct-14	22.8	6.94	1.322	1	1.4	--	--	--
	Oct-13	18.6	6.72	1.121	2	184.8	--	--	--
	Oct-12	21.52	6.48	1.382	0.0	130.0	--	--	<1.0
	Oct-11	20.60	6.76	1.49	0.0	234.9	--	--	--
	Oct-10	20.68	6.85	5.932	0.0	-13.0	--	--	--
	Oct-09	21.62	6.27	1.65	2.3	-49	--	--	<5.0
	Oct-08	22.3	7.19	0.273	43.2	-51	--	--	--
	Oct-07	21.7	7.17	0.15	398	-55	--	--	<5.0
	Jul-07	22.0	7.51	0.11	216	-23	--	--	--
	May-07	21.2	6.88	0.108	404	-58	--	--	--
	Jan-07	20.2	6.39	1.52	--	8	--	--	<5.0
	Oct-06	23.9	6.75	1.32	--	4	--	--	<5.0
	Jul-06	22.9	6.51	0.15	86	30	--	--	<5.0
	Apr-06	20.8	6.61	1.59	43	-195	--	--	<5.0
Jan-06	20.5	6.96	0.98	35	-43	--	--	<5.0	
Oct-05	22.0	7.04	1.3	462	15	--	--	5.4	
T-4B	Oct-17	21.4	7.27	1.331	2	141.7	--	--	--
	Oct-16	23.7	8.15	0.831	--	-8.3	--	--	--
	May-16	21.7	7.54	1.286	9	48	--	--	--
	Oct-15	32.2	8.11	0.837	--	279	--	--	--
	Jun-15	20.9	7.80	0.829	--	41	--	--	--
	Oct-14	21.6	7.29	1.306	2	-53.3	--	--	--
	Oct-13	20.9	7.09	1.071	1	110	--	--	--
	Oct-12	21.42	7.07	1.418	5.5	19	--	--	--
	Oct-11	22.4	7.24	1.383	0	49.2	--	--	--
	Oct-10	21.74	7.23	5.526	6.8	-17.6	--	--	--
	Oct-09	19.92	6.61	1.57	9.9	-137	--	--	--
	Oct-08	21.9	7.3	187	--	-144	--	--	--
	Oct-07	20.2	7.59	0.14	311	-82	--	--	<5.0
	Jul-07	20.8	7.73	0.1	46.5	78	--	--	--
	May-07	20.3	7.54	1.05	--	95	--	--	--
	Oct-06	20.1	7.79	1.34	213	-111	--	--	--
	Apr-06	20.1	6.91	1.29	22	-161	--	--	--
	Jan-06	20.5	7.34	1.28	53	-121	--	--	--
	Oct-05	21.1	7.23	1.42	421	-37	--	--	<5.0
	Jul-05	20.7	6.98	1.32	--	11	--	460	7.6
	Apr-05	19.7	7.30	1.34	343	-63	--	--	--
	Jan-05	20.0	7.24	1.41	--	-92	--	--	--
	Oct-04	21.1	7.25	1.3	--	--	--	--	--
Apr-04	20.1	6.95	1.29	0	-40	--	440	--	
Jan-04	19.4	6.86	1.39	0	-61	--	430	--	
Jul-03	19.7	7.86	1.34	3	-38	--	--	--	
Apr-03	19.5	7.30	1.22	0	277	--	--	--	
Oct-99	20.2	6.34	1.27	0	12	1.29	420	2.2	

**Historical Groundwater General Environmental Parameter Results**  
**Former TRW Microwave Site**  
**825 Stewart Drive, Sunnyvale, California**

Well	Date	Temperature (°C)	pH (SU)	Conductivity (mS/cm)	Turbidity (NTU)	Oxidation-Reduction Potential (mV)	Dissolved Hydrogen (nM)	Alkalinity (mg/L as CaCO3)	Total Organic Carbon (mg/L)
T-17B	Oct-17	19.9	7.17	1.200	9	220.6	--	--	0.26 J
	Oct-16	21.1	7.06	1.158	--	-33.4	--	--	0.57 J
	May-16	25.0	7.20	1.254	67	12	--	--	0.68 J
	Oct-15	22.2	7.09	1.176	--	-14	--	--	0.38 J
	Jun-15	22.8	7.13	1.217	--	-11.2	--	--	0.43 J
	Oct-14	20	7.29	1.206	4	7.4	--	--	1.3
	Apr-14	18.4	7.21	1.248	8	-55	--	--	<1
	Oct-13	20.2	7.22	1.246	6	-14.6	--	--	<1
	May-13	22	7.2	1.313		-17	--	--	1
	Oct-12	21.15	6.84	1.23	1.4	124.6	--	--	<1.0
	Apr-12	19.08	7.12	1.152	--	34.3	--	--	0.55 J
	Oct-11	21.03	7.15	1.079	9.6	66.7	--	--	--
	Oct-10	20.08	7.22	1.321	0.0	-28.8	--	--	--
	Oct-09	21.49	6.70	1.47	13.5	-36	--	--	--
	Oct-08	22.1	7.5	0.139	35.4	-186	--	--	--
	Oct-07	20.8	7.39	0.12	581	-65	--	--	<5.0
	Jul-07	21.5	7.57	0.09	255	73	--	--	--
	May-07	20.6	7.02	0.1	205	64	--	--	--
Jan-07	19.6	6.30	1.28	--	25	--	--	--	
Oct-06	20.3	7.86	0.819	--	-113	--	--	--	
Jul-06	23.8	6.93	0.125	95	-106	--	--	--	
Apr-06	21.0	6.81	1.25	159	-237	--	--	--	
Jan-06	19.0	7.14	1.18	0	-82	--	--	--	
T-18B	Oct-17	22.2	7.58	0.784	66	93.6	--	--	--
	Oct-16	20.1	7.49	0.64	--	7.9	--	--	--
	Oct-15	20.5	8.25	0.825	--	122.4	--	--	--
	Oct-14	23.4	7.63	0.846	24	-76.8	--	--	--
	Oct-13	22	7.35	0.898	5	-89.5	--	--	--
	May-13	23.04	8.04	0.994	--	-175	--	--	--
T-19B	Oct-17	19.4	7.16	1.008	519	305.5	--	--	--
	Oct-16	17.7	9.2	0.999	--	106.4	--	--	--
	Oct-15	20.2	7.22	1.033	--	133.6	--	--	--
	Oct-14	22.7	7.26	1.001	102	90.2	--	--	--
	Oct-13	20.6	6.86	1.008	118	93.6	--	--	--
	May-13	21.44	6.94	1.095	--	34	--	--	--
T-20B	Oct-17	22.3	7.11	1.480	42	139.6	--	--	--
T-21B	Oct-17	20.5	7.08	1.267	3	185.6	--	--	--
T-22B	Oct-17	21.4	6.96	1.337	4	137.4	--	--	--
T-23B	Oct-17	25.1	7.06	1.397	177	89.2	--	--	--
T-24B	Oct-17	20.7	7.33	1.270	183	128.6	--	--	--

**Historical Groundwater General Environmental Parameter Results  
Former TRW Microwave Site  
825 Stewart Drive, Sunnyvale, California**

Well	Date	Temperature (°C)	pH (SU)	Conductivity (mS/cm)	Turbidity (NTU)	Oxidation-Reduction Potential (mV)	Dissolved Hydrogen (nM)	Alkalinity (mg/L as CaCO3)	Total Organic Carbon (mg/L)
Zone B2 Aquifer Wells									
T-2C	Sep-14	19.77	7.84	0.91	0	110	--	--	--
	Apr-14	19.5	5.62	0.83	7	121	--	--	--
	Oct-13	19.1	7.97	0.817	2.0	147.2	--	--	--
	Oct-12	20.02	7.46	0.929	2.3	57.1	--	--	--
	Oct-11	20.32	7.50	0.899	0.9	64.3	--	--	--
	Oct-10	21.94	7.90	0.87	0.0	150.7	--	--	--
	Oct-09	20.02	7.08	0.96	372	20	--	--	--
	Oct-08	20	7.79	93	0	57	--	--	--
	Oct-07	21.8	7.06	1.26	9.5	11	2.0	320	--
Oct-01	21.0	6.87	0.811	10	-24	2.0	320	<5.0	
T-10C	Oct-17	20.3	7.53	0.798	8	162.4	--	--	--
	Oct-16	21.1	7.61	0.783	--	-32.7	--	--	--
	May-16	21	7.46	0.963	17	-41	--	--	--
	Oct-15	25.2	7.59	0.847	--	-222	--	--	--
	Jun-15	20.8	7.32	0.854	--	-150	--	--	--
	Oct-14	20.7	7.68	0.756	5	77.7	--	--	--
	Oct-13	20.9	7.71	0.783	7	-50.3	--	--	--
	Oct-12	21.22	7.40	0.825	0.0	162.3	--	--	--
	Oct-11	21.71	7.52	0.825	1.3	-192.2	--	--	--
	Oct-10	21.44	7.63	0.805	0.0	-117.5	--	--	--
	Oct-09	20.53	7.52	0.914	-4.1	-91	--	--	--
Oct-08	19.9	7.98	86	0	--	--	--	--	
T-11C	Oct-17	22.7	7.37	0.895	1	90.3	--	--	--
	Oct-16	22.6	7.61	0.775	--	-21.4	--	--	--
	Oct-15	22.2	7.83	0.809	--	114	--	--	--
	Oct-14	22.2	7.38	0.903	1	37.4	--	--	--
	Oct-13	20.6	6.93	0.931	3	103.7	--	--	--
	Oct-12	21.66	6.94	0.971	0.0	208.0	--	--	--
	Oct-11	21.25	7.33	0.956	0.0	-8.0	--	--	--
	Oct-10	21.65	7.34	0.974	0.0	78.1	--	--	--
	Oct-09	20.31	7.22	0.98	156	71	--	--	--
	Oct-08	20.5	7.87	0.1	14.8	--	--	--	--
T-12C	Oct-17	22.0	7.49	0.846	18	101.2	--	--	--
	Oct-16	22.2	7.95	0.455	--	-104.8	--	--	--
	Oct-15	22.8	8.74	0.586	--	24	--	--	--
	Oct-14	20.3	7.5	0.827	29	96.3	--	--	--
	Oct-13	20	7.38	0.858	23	113.8	--	--	--
	Oct-12	19.83	9.17	0.253	8.2	4.2	--	--	--
	Oct-11	20.36	8.95	0.255	20.9	-5.1	--	--	--
	Oct-10	20.53	9.44	12.84	1.8	65.0	--	--	--
	Oct-09	19.13	7.70	0.88	1.4	90	--	--	--
Oct-08	19.8	10.4	32	19.3	73	--	--	--	

**Historical Groundwater General Environmental Parameter Results  
Former TRW Microwave Site  
825 Stewart Drive, Sunnyvale, California**

Well	Date	Temperature (°C)	pH (SU)	Conductivity (mS/cm)	Turbidity (NTU)	Oxidation-Reduction Potential (mV)	Dissolved Hydrogen (nM)	Alkalinity (mg/L as CaCO <sub>3</sub> )	Total Organic Carbon (mg/L)
Zone B3 Aquifer Well									
T-9C	Oct-17	20.1	7.82	0.73	5	160.2	--	--	--
	Oct-16	20.1	7.84	0.73	--	-25.5	--	--	--
	Oct-15	22.6	7.57	0.746	--	154	--	--	--
	Oct-14	23.1	7.85	0.723	2	14.3	--	--	--
	Oct-13	19.4	7.48	0.739	4	122.2	--	--	--
	Oct-12	21.23	7.50	0.777	0.0	48.0	--	--	--
	Oct-11	20.35	7.78	0.765	0.0	-127.6	--	--	--
	Oct-10	24.07	7.55	0.807	0.0	21.3	--	--	--
	Oct-09	20.18	7.39	0.829	113	-96	--	--	--
	Oct-08	20.7	8.24	76	0.2	--	--	--	--

**Notes:**

<sup>(a)</sup> One month post EVO injection (just before pure soybean oil injection)

<sup>(b)</sup> Immediately after EVO injection

<sup>(c)</sup> Immediately before EVO injection

°C = degree Celsius

SU = standard units

mS/cm = milliSiemens per centimeter

NTU = Nephelometric Turbidity Unit

mV = millivolts

nM = nanomolar

mg/L = milligram per liter

CaCO<sub>3</sub> = calcium carbonate

-- = not analyzed/measured

Data prior to 2009 was not collected by AECOM and cannot be verified.

**Historical Groundwater Electron Acceptor/Metabolic By-Product Results**  
**Former TRW Microwave Site**  
**825 Stewart Drive, Sunnyvale, California**

Well	Date	Electron Acceptors				Metabolic By-Products						
		Dissolved Oxygen (mg/L)	Nitrite and Nitrate (mg/L)	Sulfate (mg/L)	Total Iron (mg/L)	Ferrous Iron (mg/L)	Dissolved Manganese (mg/L)	Sulfide (mg/L)	Chloride (mg/L)	Methane (µg/L)	Ethane (µg/L)	Ethene (µg/L)
Zone A Aquifer Wells												
T-7A	Oct-17	0.19	--	--	--	--	--	--	--	--	--	--
	Oct-16	0.22	--	--	--	--	--	--	--	--	--	--
	Oct-16 Dup	0.22	--	--	--	--	--	--	--	--	--	--
	May-16	0.57	--	--	--	--	--	--	--	--	--	--
	Oct-15	0.72	--	--	--	--	--	--	--	--	--	--
	Oct-15 Dup	0.72	--	--	--	--	--	--	--	--	--	--
	Jun-15	0.59	--	--	--	--	--	--	--	--	--	--
	Oct-14	0.15	--	--	--	--	--	--	--	--	--	--
	Oct-13	0.34	--	--	--	--	--	--	--	--	--	--
	Oct-12 <sup>(a)</sup>	0.64	<0.50	170	--	--	--	--	--	1.5/0.64	0.031/0.038	0.76/0.74
	Oct-11	0.49	--	--	--	--	--	--	--	--	--	--
	Oct-10	0.99	--	--	--	--	--	--	--	--	--	--
	Oct-09	5.53	--	--	--	--	--	--	--	--	--	--
	Oct-08	3.97	--	--	--	--	--	--	--	--	--	--
	May-07	3.44	--	--	--	--	--	--	--	--	--	--
	Jun-01	1.26	--	--	--	<1.0	0.012	<2.0	45	0.10	0.006	0.014
Oct-99	0.71	3.0	190	<0.02	<1.0	<0.005	<2.0	55	0.05	0.013	0.017	
EDUCTOR-11	Sep-14	0.66	--	--	--	--	--	--	--	--	--	--
	Apr-14	0.15	--	40	--	--	--	--	2,700	14	450	--
	Oct-13	0.19	--	1.6	--	--	--	--	6,400	22	910	--
	May-13	0.15	--	0.99 J	--	--	--	--	7,300	22	970	--
	Oct-12	0.07	<0.50	2.2	--	--	--	--	7,200	19	1,500	--
	Apr-12	0.71	--	3.0	--	--	--	--	6,100	18	1,400	--
	Oct-11	0.16	--	8.2	--	--	--	--	7,200	10	380	--
	May-11	0.14	--	--	--	--	--	--	520	3	1,300	--
	Mar-11	0.27	--	--	--	--	--	--	870	5	1,300	--
	Nov-10 <sup>(b)</sup>	2.06	--	--	--	--	--	--	7,600	90	2,400	--
	Oct-10 <sup>(c)</sup>	0.20	--	--	--	--	--	--	--	--	--	--
	Oct-10 <sup>(d)</sup>	5.99	--	2.8	--	--	--	--	6,900	14	24,000	--
	Oct-09	1.57	--	100	--	--	--	--	13,000	110	5,700	--
	Oct-08	0.00	--	--	--	--	--	--	9,100	12	14,000	--
	Oct-07	0.09	--	--	--	--	--	--	13,000	31	12,000	--
	Apr-07	2.79	--	4.2	--	6.5	--	--	250	13,000	52	7,300
	Oct-06	1.23	--	--	--	6.1	--	--	250	12,000	47	11,000
	Apr-06	0.00	--	--	--	4.7	--	--	250	14,000	63	9,300
	Jan-06	--	--	--	--	14	--	--	410	9,600	49	14,000
	Oct-05	--	--	--	--	3.7	--	--	220	12,000	79	6,100
	Sep-05	--	--	--	--	--	--	--	--	--	--	--
	Jul-05	0.20	--	--	--	1.5	--	--	240	11,000	110	6,100
	Apr-05	0.66	--	2.1	--	6.1	--	--	230	10,000	170	800
	Jan-05	0.06	--	--	--	4.9	--	--	160	9,500	260	6,700
	Oct-04	0.00	--	--	--	3.8	13	--	<1.0	11,000	300	4,200
	Apr-04	0.00	--	--	--	20	12	--	110	11,000	61	1,900
	Jan-04	0.00	--	--	--	2.0	16	--	--	11,000	9.6	600
	Oct-03	--	--	--	--	1.6	14	--	110	13,000	0.79	800
	Jul-03	0.00	--	--	--	58	41	--	310	950	8.1	9,900
	Apr-03	0.00	--	--	--	15	24	--	40	8,400	0.29	160
	Jan-03	--	--	--	--	29	21	--	120	3,600	1.4	310
	Oct-02	0.00	--	--	--	14	0.05	12	36	320	0.40	120
	Jul-02	--	6.3	7.8	3.0	--	--	--	100	380	0.080	85
Mar-02	--	--	--	--	--	110	<2.0	740	11	0.045	4.6	
Jan-02	0.61	--	--	--	690	150	35	1,300	160	0.034	34	
Nov-01	--	<0.10	91	20	6.4	66	<2.0	54	4.6	0.018	1.4	
Oct-01	0.13	--	--	--	400	92	<2.0	4,000	0.95	0.050	15	
Aug-01	0.00	--	--	--	22	22	<2.0	64	2.4	0.11	29	
Jun-01	0.00	<0.05	120	1.0	1.1	2.5	<2.0	100	150	0.13	450	
Mar-01	0.39	--	--	--	0.97 w/HACH	--	--	--	--	--	--	
Jan-01	5.90	--	--	--	0.00 w/HACH	--	--	--	--	--	--	
Nov-99	6.20	--	--	--	<1.0	<0.005	<2.0	74	0.092	0.006	0.28	
T-2A	Sep-14	0.85	--	--	--	--	--	--	--	--	--	--
	Apr-14	0.19	--	56	--	--	--	--	7,700	240	110	--
	Apr-14 Dup	0.19	--	58	--	--	--	--	7,400	230	110	--
	Oct-13	0.21	--	34	--	--	--	--	8,200	250	170	--
	May-13	1.73	--	33	--	--	--	--	4,000	120	67	--
	May-13 Dup	1.73	--	37	--	--	--	--	4,300	120	72	--
	Oct-12	0.33	<0.50	13	--	--	--	--	10,000	280	470	--
	Apr-12	0.56	--	22	--	--	--	--	5,600	160	150	--
	Oct-11	0.20	--	5	--	--	--	--	11,000	490	190	--
	May-11	0.21	--	--	--	--	--	--	18,000	30	170	--
	Mar-11	0.17	--	--	--	--	--	--	20,000	19	530	--
	11/15/2010 <sup>(a)</sup>	1.96	--	--	--	--	--	--	9,800	59	1,400	--
	10/20/2010 <sup>(b)</sup>	6.65	--	--	--	--	--	--	--	--	--	--
	10/12/2010 <sup>(c)</sup>	6.66	--	58	--	--	--	--	13,000	85	1,300	--
	Oct-09	4.29	--	88	--	--	--	--	6,100	32	180	--
	Oct-08	0.00	--	--	--	--	--	--	14,000	40	44	--
	Oct-07	4.01	--	--	--	--	--	--	5,700	24	16	--
	Apr-07	0.00	--	--	--	--	--	--	5,700	24	16	--
	Oct-06	--	--	--	--	--	--	--	11,000	59	53	--
	Apr-06	0.00	--	--	--	--	--	--	7,900	21	19	--
	Jan-06	--	--	--	--	--	--	--	7,800	31	26	--
	Oct-05	--	--	87	--	16	--	--	70	11,000	34	22
	Jul-05	0.45	--	20	--	2.5	--	--	85	12,000	52	41
	Apr-05	0.43	--	85	--	18	--	--	93	11,000	32	27
	Jan-05	0.09	--	14	--	10	--	--	72	6,800	26	30
	Oct-04	0.00	--	5.8	--	4.4	3.2	--	<1.0	8,200	25	41
	Apr-04	0.00	--	15	--	25	3.3	--	66	6,300	15	22
	Jan-04	0.00	--	25	--	21	3.7	--	94	9,900	26	18
	Oct-03	--	--	<1.0	--	25	2.2	--	65	9,100	5.2	29
	Jul-03	0.00	--	4.3	--	25	2.5	--	60	7,900	3.1	23
	Apr-03	0.00	--	6.1	8.6	35	3.5	--	29	9,800	6.5	13

**Historical Groundwater Electron Acceptor/Metabolic By-Product Results  
Former TRW Microwave Site  
825 Stewart Drive, Sunnyvale, California**

Well	Date	Electron Acceptors				Metabolic By-Products						
		Dissolved Oxygen (mg/L)	Nitrite and Nitrate (mg/L)	Sulfate (mg/L)	Total Iron (mg/L)	Ferrous Iron (mg/L)	Dissolved Manganese (mg/L)	Sulfide (mg/L)	Chloride (mg/L)	Methane (µg/L)	Ethane (µg/L)	Ethene (µg/L)
T-2A (continued)	Jan-03	0.78	--	4.2	0.53	23	1.8	--	52	13,000	3.6	21
	Oct-02	0.00	12	16	160	70	7.9	--	72	1,200	0.26	7.3
	Jul-02	--	7.4	27	82	--	--	--	64	950	0.68	51
	Apr-02	0.12	1.7	4.3	67	56	8.0	<2.0	89	2,700	4.0	280
	Jan-02	--	--	--	--	--	--	--	--	--	--	--
	Nov-01	0.35	2.0	80	23	35	5.4	3.2	2,400	1,200	0.009	44
	Oct-01	0.00	0.30	54	64	58	9.5	<2.0	57	1,400	0.016	49
	Aug-01	0.00	<0.10	53	60	48	9.0	<2.0	63	2,220	0.086	150
	Jun-01	0.00	<0.05	7.8	100	94	18	<2.0	71	6,300	<0.005	160
	Mar-01	2.03	2.0	120	15	8.4	4.8	<2.0	57	660	0.033	44
	Jan-01	5.90	0.77	63	15	9.5	3.2	<2.0	68	160	0.028	9.1
Nov-99	2.64	3.3	290	<0.02	<1.0	<0.005	<2.0	72	0.093	0.019	0.062	
T-3A	Sep-14	1.41	--	--	--	--	--	--	--	--	--	--
	Apr-14	1.99	--	--	--	--	--	--	--	--	--	--
	Oct-13	0.98	--	--	--	--	--	--	--	--	--	--
	Oct-12	1.23	--	--	--	--	--	--	--	--	--	--
	Oct-11	1.75	--	--	--	--	--	--	--	--	--	--
	Oct-10	1.40	--	--	--	--	--	--	--	--	--	--
	Oct-09	3.3	--	--	--	--	--	--	--	--	--	--
	Oct-08	4.21	--	--	--	--	--	--	--	--	--	--
T-8A	Oct-17	0.10	--	180	--	--	--	--	--	30 n	0.019 Jn	0.054 Jn
	Oct-16	0.22	--	160	--	--	--	--	--	2.9 n	0.033 Jn	0.067 Jn
	May-16	0.35	--	150	--	--	--	--	--	13 n	0.015 Jn	0.050 Jn
	Oct-15	0.21	--	170	--	--	--	--	--	5.9	0.027	0.033
	Jun-15	0.35	--	150	--	--	--	--	--	17	0.017 J	0.16
	Oct-14	0.13	--	170	--	--	--	--	--	11	0.043	0.019 J
	Apr-14	0.27	--	170	--	--	--	--	--	6.2	0.038	0.018 J
	Oct-13	0.4	--	180	--	--	--	--	--	100	0.076	0.023 J
	May-13	0.21	--	170	--	--	--	--	--	13	0.03	0.05
	Oct-12	0.27	1.9	160	--	--	--	--	--	180	0.082	0.12
	Apr-12	0.53	--	180	--	--	--	--	--	2,900	0.38	0.26
	Oct-11	0.17	--	200	--	--	--	--	--	66	0.011J	0.037
	Oct-10	0.16	--	200	--	--	--	--	--	300	0.043	0.220
	Apr-10	6.97	--	--	--	--	--	--	--	560	0.042	0.330
	Oct-09	3.83	--	210	--	--	--	--	--	550	0.076	2.500
	Oct-08	0.00	--	--	--	--	--	--	--	--	--	--
	Oct-07	0.00	--	150	--	0.42	--	--	90	3,700	0.15	7.40
	Apr-07	1.23	--	260	--	<1.0	--	--	120	750	0.061	0.26
	Jan-07	0.00	--	240	--	<1.0	--	--	80	3,500	0.075	0.7
	Oct-06	1.66	--	240	--	2.6	--	--	95	4,200	<0.025	2.7
	Jul-06	0.21	--	260	--	<1.0	--	--	67	1,000	<0.025	0.24
	Apr-06	0.00	--	160	--	<1.0	--	--	51	3,000	0.12	3.8
	Jan-06	0.49	--	130	--	<1.0	--	--	41	2,200	<0.025	3.7
	Oct-05	0.00	--	210	--	<1.0	--	--	81	58	<0.025	0.029
	Jul-05	0.47	23	180	--	<1.0	<0.1	--	67	65	<0.025	0.031
	Apr-05	0.60	--	250	--	--	--	--	67	--	--	--
	Oct-04	0.00	--	--	--	--	--	--	--	--	--	--
	Apr-04	0.00	22	200	--	<1.0	--	--	59	38	<0.005	<0.005
	Jan-04	0.00	23	260	--	<1.0	--	--	72	13	0.058	0.11
	Oct-02	--	14	200	0.42	<1.0	0.016	<2.0	60	20	0.006	0.053
	Jul-02	--	16	190	0.086	--	--	--	68	44	0.009	0.038
Mar-02	0.00	--	230	0.28	--	0.021	<2.0	59	56	0.008	0.066	
Jan-02	0.60	13	220	0.22	<1.0	0.027	<2.0	66	76	<0.005	0.066	
Nov-01	0.00	12	230	0.24	<1.0	0.047	3.2	63	52	0.008	0.079	
Oct-01	0.23	16	210	7.0	<1.0	0.057	<2.0	68	130	0.008	0.11	
Aug-01	0.00	16	2,500	0.38	<1.0	0.041	<2.0	65	43	0.007	0.072	
Jun-01	0.00	2.3	250	<0.050	<1.0	<0.010	<2.0	77	4.0	0.009	0.018	
Mar-01	0.61	--	--	--	0.17 w/HACH	--	--	--	--	--	--	
Jan-01	6.37	--	--	--	0.10 w/HACH	--	--	--	--	--	--	
Oct-99	3.82	3.6	280	0.0206	<1.0	0.014	<2.0	69	0.112	0.027	0.012	
T-9A	Oct-17	0.25	--	--	--	--	--	--	--	--	--	--
	Oct-16	0.23	--	--	--	--	--	--	--	--	--	--
	Oct-15	0.33	--	--	--	--	--	--	--	--	--	--
	Oct-14	0.13	--	--	--	--	--	--	--	--	--	--
	Oct-13	0.31	--	--	--	--	--	--	--	--	--	--
	Oct-12	0.30	<0.50	170	--	--	--	--	--	140	0.5	0.031
	Oct-11	0.17	--	--	--	--	--	--	--	--	--	--
	Oct-10	7.37	--	--	--	--	--	--	--	--	--	--
	Oct-09	0.00	--	--	--	--	--	--	--	--	--	--
	Oct-08	0.00	--	--	--	--	--	--	--	290	0.4	0.053
	Oct-07	4.19	--	--	--	--	--	--	--	260	0.330	0.084
	May-07	2.25	--	--	--	--	--	--	--	9.8	0.120	0.054
	Oct-06	3.32	--	--	--	--	--	--	--	5.6	0.062	<0.025
	Jul-06	0.17	--	--	--	--	--	--	--	--	--	--
	Apr-06	0.00	--	--	--	--	--	--	--	1,800	0.27	0.091
	Jan-06	--	--	--	--	--	--	--	--	2,000	0.12	0.14
	Oct-05	0.00	--	130	--	<1.0	--	--	63.0	530	0.12	0.096
	Jul-05	0.53	9.9	210	--	<1.0	0.2	--	68.0	100	0.057	0.048
	Apr-05	0.05	--	240	--	--	--	--	--	74	--	--
	Jan-05	0.21	--	--	--	--	--	--	--	--	--	--
	Oct-04	0	7.5	180	--	--	--	--	62	74	0.23	0.54
	Apr-04	0.00	11	190	--	<1.0	--	--	52	81	0.026	0.027
	Jan-04	0.00	16	200	--	<1.0	--	--	69	96	0.52	0.20

Historical Groundwater Electron Acceptor/Metabolic By-Product Results  
Former TRW Microwave Site  
825 Stewart Drive, Sunnyvale, California

Well	Date	Electron Acceptors				Metabolic By-Products						
		Dissolved Oxygen (mg/L)	Nitrite and Nitrate (mg/L)	Sulfate (mg/L)	Total Iron (mg/L)	Ferrous Iron (mg/L)	Dissolved Manganese (mg/L)	Sulfide (mg/L)	Chloride (mg/L)	Methane (µg/L)	Ethane (µg/L)	Ethene (µg/L)
T-13A	Oct-17	0.15	--	180	--	--	--	--	--	170 n	0.021 Jn	0.57 n
	Oct-16	0.36	--	170	--	--	--	--	--	1,000 n	0.20 n	2.0 n
	May-16	0.23	--	170	--	--	--	--	--	560 n	0.11 n	1.7 n
	May-16 Dup	0.23	--	160	--	--	--	--	--	530 n	0.10 n	1.6 n
	Oct-15	0.20	--	170	--	--	--	--	--	240	0.094	1.70
	Jun-15	0.90	--	170	--	--	--	--	--	660	0.17	2.50
	Jun-15 Dup	0.9	--	150	--	--	--	--	--	690	0.17	2.6
	Oct-14	0.15	--	320	--	--	--	--	--	4,100	2.2	3.1
	Oct-14 Dup	0.15	--	--	--	--	--	--	--	--	--	--
	Apr-14	0.49	--	170	--	--	--	--	--	2,900	1.2	2.2
	Apr-14 Dup	0.49	--	150	--	--	--	--	--	2,900	1.2	2.3
	Oct-13	0.45	--	180	--	--	--	--	--	6,000	1.8	3.4
	May-13	0.66	--	170	--	--	--	--	--	3,800	0.71	2.8
	May-13 Dup	0.66	--	160	--	--	--	--	--	4,600	0.83	3
	Oct-12	0.18	<0.50	100	--	--	--	--	--	7,700	1.30	22.00
	Apr-12	0.61	--	94	--	--	--	--	--	14,000	1.9	6.9
	Oct-11	0.13	--	200	--	--	--	--	--	2,200	0.180	3.8
	Oct-10	0.24	--	210	--	--	--	--	--	5,600	0.620	4.6
	Apr-10	6.77	--	--	--	--	--	--	--	9,200	5.300	8.0
	Oct-09	3.53	--	180	--	--	--	--	--	11,000	0.700	6.7
	Oct-08	4.95	--	77	--	14	--	--	120	12,000	1.2	5
	Oct-07	4.25	--	91	--	2.7	--	--	81.0	2,900	0.140	0.7
	Jul-07	0.62	--	250	--	<1.0	--	--	100.0	170	<0.025	<0.025
	Apr-07	2.65	--	260	--	<1.0	--	--	120.0	230	<0.025	<0.025
	Jan-07	0.09	--	260	--	<1.0	--	--	92.0	450	<0.025	0.0
	Oct-06	2.23	--	330	--	<1.0	--	--	81.0	370	<0.025	3.8
	Jul-06	0.24	--	260	--	<1.0	--	--	74.0	480	0.026	0.081
	Apr-06	0.65	--	230	--	<1.0	--	--	74.0	790	0.036	1.4
	Jan-06	1.04	--	230	--	<1.0	--	--	66.0	31	0.037	0.58
	Nov-05	0.00	13	210	--	<1.0	0.1	--	63.0	9.8	0.18	0.23

**Historical Groundwater Electron Acceptor/Metabolic By-Product Results  
Former TRW Microwave Site  
825 Stewart Drive, Sunnyvale, California**

Well	Date	Electron Acceptors				Metabolic By-Products						
		Dissolved Oxygen (mg/L)	Nitrite and Nitrate (mg/L)	Sulfate (mg/L)	Total Iron (mg/L)	Ferrous Iron (mg/L)	Dissolved Manganese (mg/L)	Sulfide (mg/L)	Chloride (mg/L)	Methane (µg/L)	Ethane (µg/L)	Ethene (µg/L)
T-14A	Oct-17	0.19	--	170	--	--	--	--	--	270 n	0.029 Jn	0.97 n
	Oct-16	0.37	--	150	--	--	--	--	--	480 n	0.071 Jn	2.4 n
	Oct-15	0.24	--	160	--	--	--	--	--	140	0.13	2.9
	Oct-14	0.21	--	150	--	--	--	--	--	350	0.49	7.3
	Apr-14	0.35	--	160	--	--	--	--	--	770	0.79	6.6
	Oct-13	0.43	--	160	--	--	--	--	--	320	0.85	8.5
	May-13	0.24	--	140	--	--	--	--	--	360	0.82	9.8
	Oct-12	0.22	--	--	--	--	--	--	--	--	--	--
	Apr-12	0.73	--	160	--	--	--	--	--	5,500	2.6	8.6
	Oct-11	0.11	--	190	--	--	--	--	--	170	0.210	6.0
	Oct-10	0.38	--	190	--	--	--	--	--	300	0.400	7.4
	Apr-10	6.69	--	--	--	--	--	--	--	530	0.450	6.3
	Oct-09	0.54	--	180	--	--	--	--	--	4,300	0.760	12
	Oct-08	0	--	180	--	8.5	--	--	100	9,400	0.2	14
	Oct-07	4.25	--	45.0	--	15.0	--	--	73.0	520	0.340	0.560
	Jul-07	0.15	--	210.0	--	<1.0	--	--	89.0	160	0.059	0.052
	Apr-07	1.89	--	210.0	--	<1.0	--	--	110.0	91	0.029	0.031
	Oct-06	1.49	--	--	--	<1.0	--	--	--	260	0.041	0.53
	Apr-06	0.46	--	240	--	<1.0	--	--	65.0	1,400	0.076	0.64
	Jan-06	0.20	--	210	--	<1.0	--	--	56.0	560	0.029	0.088
Nov-05	0.00	13	210	--	<1.0	0.1	--	60.0	640	0.084	0.16	
T-15A	Oct-17	0.13	--	--	--	--	--	--	--	--	--	--
	Oct-16	0.3	--	--	--	--	--	--	--	--	--	--
	Oct-15	0.21	--	--	--	--	--	--	--	--	--	--
	Oct-14	0.14	--	--	--	--	--	--	--	--	--	--
	Apr-14	0.4	--	170	--	--	--	--	--	1.8	0.28	0.84
	Oct-13	0.37	--	--	--	--	--	--	--	--	--	--
	May-13	0.3	--	170	--	--	--	--	--	2.5	0.023 J	0.026
	Oct-12	0.23	3.6	160	--	--	--	--	--	1.8	0.038	0.05
	Apr-12	0.42	--	190	--	--	--	--	--	9.9	0.10	0.11
	Oct-11	0.12	--	--	--	--	--	--	--	--	--	--
	Oct-10	0.29	--	--	--	--	--	--	--	--	--	--
	Oct-09	3.27	--	--	--	--	--	--	--	--	--	--
	Oct-08	6.55	--	230	--	<1.0	--	--	97	6.4	<0.025	0.33
	Oct-07	2.88	--	250	--	<0.05	--	--	92	18	<0.025	0.14
	Jul-07	0.02	--	--	--	--	--	--	--	--	--	--
	Jan-07	0.00	--	210	--	<1.0	--	--	76	140	0.04	0.16
	Oct-06	1.63	--	260	--	<1.0	--	--	85	180	<0.025	0.26
	Jul-06	0.15	--	260	--	<1.0	--	--	63	240	0.049	0.59
	Apr-06	0.69	--	250	--	<1.0	--	--	66.0	1,200	0.16	3.6
	Jan-06	0.57	--	190	--	<1.0	--	--	60.0	2,100	0.12	5.2
Nov-05	0	1	140	--	<1.0	1.7	--	63	3200	0.042	1.6	

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Former TRW Microwave Site  
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Well	Date	Electron Acceptors				Metabolic By-Products							
		Dissolved Oxygen (mg/L)	Nitrite and Nitrate (mg/L)	Sulfate (mg/L)	Total Iron (mg/L)	Ferrous Iron (mg/L)	Dissolved Manganese (mg/L)	Sulfide (mg/L)	Chloride (mg/L)	Methane (µg/L)	Ethane (µg/L)	Ethene (µg/L)	
T-16A	Oct-17	0.20	--	--	--	--	--	--	--	--	--	--	
	Oct-16	0.46	--	--	--	--	--	--	--	--	--	--	
	Oct-15	0.25	--	--	--	--	--	--	--	--	--	--	
	Oct-14	0.1	--	--	--	--	--	--	--	--	--	--	
	Oct-13	0.32	--	--	--	--	--	--	--	--	--	--	
	Oct-11	0.24	--	--	--	--	--	--	--	--	--	--	
	Oct-11	0.15	--	--	--	--	--	--	--	--	--	--	
	Oct-10	0.39	--	--	--	--	--	--	--	--	--	--	
	Oct-09	3.16	--	--	--	--	--	--	--	--	--	--	
	Oct-08	0.00	--	--	220	--	<1	--	--	95	160	<0.025	0.08
	Oct-07	0.00	--	--	240	--	<1.0	--	--	99.0	190	<0.025	0.92
	May-07	0.00	--	--	270	--	<1.0	--	--	100.0	47	0.057	0.13
	Oct-06	1.40	--	--	270	--	<1.0	--	--	84.0	320	<0.025	0.55
	Apr-06	0.22	--	--	240	--	<1.0	--	--	63.0	1,800	0.17	3.6
	Jan-06	--	--	--	200	--	1.1	--	--	57.0	2,500	0.084	3.7
Nov-05	0	--	1	140	--	<1.0	2	--	62	5900	0.076	2	
T-17A	Oct-17	0.15	--	150	--	--	--	--	--	530 n	0.42 n	0.15 n	
	Oct-16	0.29	--	130	--	--	--	--	--	1000 n	0.54 n	0.50 n	
	May-16	0.35	--	120	--	--	--	--	--	84 n	0.079 Jn	0.057 Jn	
	Oct-15	0.56	--	130	--	--	--	--	--	500	0.5	0.48	
	Jun-15	0.28	--	120	--	--	--	--	--	920	0.64	0.47	
	Oct-14	0.15	--	130	--	--	--	--	--	960	0.39	0.43	
	Apr-14	0.29	--	130	--	--	--	--	--	840	0.54	0.31	
	Oct-13	0.24	--	130	--	--	--	--	--	530	0.61	0.14	
	May-13	0.08	--	140	--	--	--	--	--	1,100	0.66	0.21	
	Oct-12	0.22	5.9	120	--	--	--	--	--	2500.0	1.2	0.070	
	Apr-12	0.44	--	120	--	--	--	--	--	4,000	1.6	0.67	
	Nov-11	--	--	140	--	--	--	--	--	1.8	0.14	0.39	
T-19A	Oct-17	0.13	--	170	--	--	--	--	--	84 n	0.11 n	2.7 n	
	Oct-16	0.33	--	150	--	--	--	--	--	260 n	0.37 n	4.3 n	
	May-16	0.42	--	100	--	--	--	--	--	1400 n	1.2 n	2.6 n	
	Oct-15	0.18	--	160	--	--	--	--	--	1600	1.7	10	
	Jun-15	0.40	--	120	--	--	--	--	--	2600	2.2	7.2	
	Oct-14	0.17	--	180	--	--	--	--	--	6,400	3.5	5.6	
	Apr-14	0.34	--	36	--	--	--	--	--	6,300	3.5	2.7	
	Oct-13	0.85	--	32	--	--	--	--	--	8,400	3.4	3.3	
	May-13	1.52	--	37	--	--	--	--	--	8,900	2.6	4.9	
	Oct-12	0.17	0.22 J	23	--	--	--	--	--	13,000	1.7	2.9	
	Apr-12	0.61	--	7.3	--	--	--	--	--	16,000	1.1	1.1	
	Oct-11	0.24	--	140	--	--	--	--	--	1,000	2.000	10.000	
	Oct-10	0.43	--	170	--	--	--	--	--	3,200	2.900	13.000	
	Apr-10	6.78	--	--	--	--	--	--	--	3,300	11.000	7.400	
	Oct-09	2.03	--	81	--	--	--	--	--	12,000	6.600	7.100	
Oct-08	0	--	<2.0	--	22	--	--	140	11,000	0.52	2.3		
Oct-07	--	--	42	--	44.0	--	--	120.0	92	0.180	0.23		
Sep-07	0.82	--	250	--	<1.0	--	--	84.0	34	0.3	0.25		
T-23A	Oct-17	0.19	--	190	--	--	--	--	--	560 n	1.1 n	0.68 n	
	Oct-16	0.45	--	160	--	--	--	--	--	1100 n	1.1 n	0.56 n	
	May-16	0.25	--	140	--	--	--	--	--	1200 n	1.1 n	0.57 n	
	Oct-15	0.23	--	170	--	--	--	--	--	1100	1	0.71	
	Jun-15	0.36	--	160	--	--	--	--	--	1100	0.87	0.42	
	Oct-14	0.18	--	260	--	--	--	--	--	4,200	2.5	0.97	
	Apr-14	0.24	--	140	--	--	--	--	--	2,400	1.2	0.77	
	Oct-13	0.9	--	130	--	--	--	--	--	6,100	2.8	1.8	
	May-13	0.13	--	160	--	--	--	--	--	4,600	1.3	2.4	
	Oct-12	0.13	<0.50	120	--	--	--	--	--	7,900	1.1	5.2	
	Apr-12	0.79	--	100	--	--	--	--	--	9,300	0.48	3.1	
	Oct-11	0.21	--	190	--	--	--	--	--	2,200	6.000	2.400	
	Oct-10	0.49	--	190	--	--	--	--	--	3,000	7.200	6.100	
	Apr-10	6.71	--	--	--	--	--	--	--	4,900	6.500	14.00	
	Oct-09	0.47	--	200	--	--	--	--	--	3,400	6.500	14.00	
	Oct-08	0	--	79	--	4.9	--	--	100	13,000	0.86	3.3	
	Oct-07	0.00	--	100	--	1.5	--	--	83.0	6.70	0.530	0.480	
Sep-07	1.24	--	200	--	<1.0	--	--	97.0	1.50	0.091	0.110		
T-24A	Oct-11	0.11	--	--	--	--	--	--	--	6,800	20.000	4.700	
T-25A	Oct-17	0.19	--	230	--	--	--	--	--	2.1 n	0.026 Jn	0.25 n	
	Oct-16	0.28	--	150	--	--	--	--	--	6.7 n	0.039 Jn	0.36 n	
	May-16	0.29	--	170	--	--	--	--	--	5.2 n	0.033 Jn	0.57 n	
	Oct-15	0.24	--	160	--	--	--	--	--	11	0.056	0.84	
	Jun-15	0.71	--	160	--	--	--	--	--	49	0.078 J	1.6	
	Oct-14	0.12	--	150	--	--	--	--	--	12	0.079	5.8	
	Apr-14	0.23	--	160	--	--	--	--	--	45	0.15	7.2	
	Oct-13	0.33	--	160	--	--	--	--	--	47	0.13	15	
	May-13	0.22	--	160	--	--	--	--	--	57	0.14	14	
	Oct-12	0.22	--	--	--	--	--	--	--	--	--	--	
	Apr-12	0.37	--	150	--	--	--	--	--	7,000	9.8	16	
	Oct-11	0.21	--	190	--	--	--	--	--	21	0.059	0.740	
	Oct-10	0.45	--	190	--	--	--	--	--	41	0.062	2.200	
	Apr-10	6.80	--	--	--	--	--	--	--	450	0.280	5.300	
	Oct-09	3.65	--	200	--	--	--	--	--	54.00	0.140	8.000	
	Oct-08	4.75	--	220	--	2.7	--	--	93	1,200	0.48	14	
	Oct-07	0.00	--	170	--	2.7	--	--	90.0	970	0.033	0.580	
Sep-07	0.71	--	260	--	<1.0	--	--	96.0	170	0.076	0.210		

Historical Groundwater Electron Acceptor/Metabolic By-Product Results  
Former TRW Microwave Site  
825 Stewart Drive, Sunnyvale, California

Well	Date	Electron Acceptors				Metabolic By-Products						
		Dissolved Oxygen (mg/L)	Nitrite and Nitrate (mg/L)	Sulfate (mg/L)	Total Iron (mg/L)	Ferrous Iron (mg/L)	Dissolved Manganese (mg/L)	Sulfide (mg/L)	Chloride (mg/L)	Methane (µg/L)	Ethane (µg/L)	Ethene (µg/L)
38S	Oct-17	0.12	--	150	--	--	--	--	--	--	--	--
	Oct-16	0.23	--	150	--	--	--	--	--	--	--	--
	Oct-15	0.49	--	140	--	--	--	--	--	--	--	--
	Oct-14	0.16	--	120	--	--	--	--	--	--	--	--
	Oct-13	0.24	--	140	--	--	--	--	--	--	--	--
	May-13	1.41	--	130	--	--	--	--	--	--	--	--
	Oct-12	0.22	<0.50	110	--	--	--	--	880	1.5	0.64	--
	Apr-12	0.49	--	120	--	--	--	--	1,100	1.4	0.53	--
	Oct-11	0.38	--	--	--	--	--	--	--	--	--	--
	Oct-10	0.70	--	--	--	--	--	--	--	--	--	--
	Oct-09	3.30	--	--	--	--	--	--	--	--	--	--
Oct-08	4.7	--	--	--	--	--	--	--	--	--	--	
Zone B1 Aquifer Wells												
T-7B	Oct-17	0.33	--	--	--	--	--	--	--	--	--	--
	Oct-16	3.29	--	--	--	--	--	--	--	--	--	--
	Jun-15	3.18	--	--	--	--	--	--	--	--	--	--
	Oct-15	3.04	--	--	--	--	--	--	--	--	--	--
	Jun-15	3.18	--	--	--	--	--	--	--	--	--	--
	Oct-14	0.2	--	--	--	--	--	--	--	--	--	--
	Oct-13	0.34	--	--	--	--	--	--	--	--	--	--
	Oct-11	0.41	8.4	97	--	--	--	--	340/330	0.15/0.19	0.22/0.20	--
	Oct-10	0.37	--	--	--	--	--	--	--	--	--	--
	Oct-09	0.00	--	--	--	--	--	--	--	--	--	--
	Aug-01	0.24	7.4	230	0.49	<1.0	0.13	<2.0	59	16	0.027	0.13
	Jun-01	0.00	<0.05	260	0.14	<1.0	0.024	<2.0	74	13	0.014	0.22
	Apr-01	0.00	8.0	240	0.37	<1.0	0.23	<2.0	67	41	0.046	0.30
	Feb-01	0.34	9.1	240	0.60	<1.0	0.37	<2.0	66	100	0.059	0.61
	Dec-00	0.00	<0.1	22	0.88	<1.0	0.18	<2.0	44	38	0.008	0.19
	Nov-00	1.86	13	44	0.43	<1.0	<0.01	<2.0	23	7.2	<0.005	0.030
	Sep-00	0.11	19	330	0.37	<1.0	0.15	<2.0	110	--	--	--
Oct-99	0.01	1.4	250	0.03	<1.0	0.04	<2.0	68	50	0.049	0.25	
T-2B	Sep-14	3.09	--	--	--	--	--	--	--	--	--	--
	Apr-14	0.9	--	120	--	--	--	--	--	13,000	110	25
	Oct-13	0.33	--	220	--	--	--	--	--	5,500	17	52
	May-13	1.46	--	230	--	--	--	--	--	4,900	20	40
	Oct-12	0.38	0.27 J	200	--	--	--	--	--	4,900	19	70
	Apr-12	0.58	--	190	--	--	--	--	--	7,000	44	60
	Oct-11	0.27	--	--	--	--	--	--	--	9,800	53	150
	May-11	0.25	--	--	--	--	--	--	--	6,000	21	130
	Mar-11	0.09	--	--	--	--	--	--	--	15,000	54	540
	Nov-10 <sup>(b)</sup>	2.4	--	--	--	--	--	--	--	11,000	21	210
	Oct-10 <sup>(c)</sup>	6.77	--	--	--	--	--	--	--	--	--	--
	Oct-10 <sup>(d)</sup>	6.82	--	--	--	--	--	--	--	12,000	21	140
	Oct-09	0.63	--	--	--	--	--	--	--	8,900	45	760
	Oct-08	0	--	--	--	--	--	--	--	12,000	26	84
	Oct-07	0.00	--	--	--	--	--	--	--	18,000	57	120
	Apr-07	0.00	--	--	--	--	--	--	--	12,000	50	47
	Oct-06	2.73	--	--	--	--	--	--	--	19,000	120	210
	Apr-06	0.00	--	--	--	--	--	--	--	11,000	63	97
	Jan-06	--	--	--	--	--	--	--	--	18,000	110	290
	Oct-05	0.28	--	150	--	14	--	--	79	19,000	110	400
	Jul-05	0.26	--	150	--	19	--	--	93	21,000	150	390
	Apr-05	0.24	--	130	--	14	--	--	96	18,000	99	720
	Jan-05	0.10	--	68	--	<1.0	--	--	85	13,000	140	320
	Oct-04	0.00	--	22	--	29	2.1	--	<1.0	14,000	210	310
	Apr-04	0.00	--	6.3	--	23	2.5	--	84	10,000	260	160
	Jan-04	0.00	--	<1.0	--	27	2.6	--	120	13,000	420	120
	Oct-03	--	--	<1.0	--	35	3.0	--	92	14,000	390	120
	Jul-03	0.00	--	4.3	--	42	3.0	--	88	14,000	370	170
	Apr-03	0.00	--	3.9	<0.050	50	0.60	--	88	12,000	180	170
	Jan-03	0.61	--	4.2	1.7	44	4.5	--	85	15,000	160	260
	Oct-02	0.00	1.3	4.5	43	48	5.3	<2.0	79	3,300	20	150
	Jul-02	--	10	5.7	55	--	--	--	82	6,000	65	700
	Apr-02	1.22	3.0	32	110	80	16	<2.0	77	1,100	0.037	55
Jan-02	0.73	1.5	4.0	78	45	10	<2.0	89	9,600	0.24	1,200	
Oct-01	0.00	<0.10	1.2	190	190	17	<2.0	110	6,000	0.18	980	
Aug-01	2.14	2.1	4.9	140	130	13	<2.0	100	1,700	0.24	840	
Jun-01	0.00	0.10	67	20	22	2.7	<2.0	67	430	0.019	130	
Apr-01	0.00	<0.10	61	15	15	1.8	<2.0	60	1,400	0.068	450	
Feb-01	0.55	0.98	46	24	25	1.6	<2.0	80	730	0.11	470	

**Historical Groundwater Electron Acceptor/Metabolic By-Product Results  
Former TRW Microwave Site  
825 Stewart Drive, Sunnyvale, California**

Well	Date	Electron Acceptors				Metabolic By-Products						
		Dissolved Oxygen (mg/L)	Nitrite and Nitrate (mg/L)	Sulfate (mg/L)	Total Iron (mg/L)	Ferrous Iron (mg/L)	Dissolved Manganese (mg/L)	Sulfide (mg/L)	Chloride (mg/L)	Methane (µg/L)	Ethane (µg/L)	Ethene (µg/L)
T-2B (continued)	Dec-00	0.00	1.6	<1.0	32	29	1.9	<2.0	77	180	0.14	120
	Nov-00	0.00	<0.1	<1.0	3.4	3.2	11	6.9	66	2.2	0.048	16
	Oct-00	0.01	<0.1	270	1.2	<1.0	0.56	<2.0	73	1.0	0.065	16
	Nov-99	0.24	1.2	290	0.44	<1.0	0.28	<2.0	75	1.2	0.076	21
T-8B	Oct-17	0.21	--	--	--	--	--	--	--	--	--	--
	Oct-16	0.2	--	--	--	--	--	--	--	--	--	--
	May-16	0.55	--	--	--	--	--	--	--	--	--	--
	Oct-15	0.17	--	--	--	--	--	--	--	--	--	--
	Jun-15	0.61	--	--	--	--	--	--	--	--	--	--
	Oct-14	0.16	--	--	--	--	--	--	--	--	--	--
	Oct-13	0.28	--	--	--	--	--	--	--	--	--	--
	Oct-12	0.33	<0.50	180	--	--	--	--	--	1,000	0.088	0.27
	Oct-11	0.1	--	--	--	--	--	--	--	840	0.094	0.450
	Oct-10	0.31	--	--	--	--	--	--	--	1,900	0.220	1.300
	Oct-09	3.96	--	--	--	--	--	--	--	490	0.081	0.045
	Oct-08	0	--	--	--	--	--	--	--	2,300	0.44	2.6
	Oct-07	2.41	--	210	--	0.5	--	--	70	3,000	0.065	0.58
	Apr-07	1.03	--	200	--	2.5	--	--	86	3,400	0.36	0.85
	Jan-07	0.00	--	190	--	<1.0	--	--	62	3,500	0.25	0.95
	Oct-06	1.62	--	220	--	2.3	--	--	70	3,300	0.072	0.73
	Jul-06	0.21	--	270	--	3.5	--	--	62	4,000	0.26	0.6
	Apr-06	0.00	--	240	--	1.9	--	--	65	5,100	0.46	3.5
	Jan-06	5.89	--	190	--	1.8	--	--	58	3,000	0.19	3.1
	Oct-05	0.00	--	200	--	2.2	--	--	69	3,000	0.44	3.4
	Jul-05	0.36	1.6	230	--	<1.0	0.91	--	68	4,500	0.50	8.0
	Apr-05	0.09	--	210	--	--	--	--	66	--	--	--
	Oct-04	0.00	--	--	--	--	--	--	--	--	--	--
	Apr-04	0.00	<0.50	190	--	--	--	--	62	3,600	0.19	7.0
	Oct-03	--	--	--	--	--	--	--	--	--	--	--
	Oct-02	0.00	4.3	200	8.6	1.6	0.85	<2.0	<1.0	580	0.025	7.5
	Jul-02	--	<0.10	190	10	--	--	--	64	3,300	0.13	33
	Mar-02	0.05	--	220	3.6	--	0.77	<2.0	66	580	0.014	9.5
	Jan-02	0.83	<0.10	210	4.0	2.2	0.82	<2.0	67	1,400	0.008	21
	Oct-01	0.00	2.6	200	3.7	2.1	0.70	<2.0	74	890	<0.005	15
	Aug-01	0.16	0.28	290	3.9	2.7	0.65	<2.0	81	600	<0.005	12
	Jun-01	0.00	0.49	270	5.6	1.9	0.68	<2.0	89	1,400	<0.005	13
Apr-01	0.00	6.5	250	5.0	4.3	1.4	<2.0	75	2,200	<0.005	27	
Feb-01	0.29	5.7	210	7.0	7.2	1.5	<2.0	72	610	0.016	11	
Dec-00	0.07	0.62	220	0.82	<1.0	7.4	<2.0	62	71	0.032	2.5	
Nov-00	0.10	1.6	220	3.0	2.9	1.1	<2.0	70	1.3	0.037	2.0	
Oct-00	0.00	14	280	0.058	<1.0	0.43	<2.0	72	2.4	0.029	0.84	
Oct-99	3.35	4.3	300	<0.02	<1.0	0.12	<2.0	73	0.32	0.038	1.5	
T-9B	Oct-17	0.31	--	--	--	--	--	--	--	--	--	--
	Oct-17	0.31	--	--	--	--	--	--	--	--	--	--
	May-16	0.51	--	--	--	--	--	--	--	--	--	--
	Oct-15	2.13	--	--	--	--	--	--	--	--	--	--
	Jun-15	1.27	--	--	--	--	--	--	--	--	--	--
	Oct-14	0.35	--	--	--	--	--	--	--	--	--	--
	Oct-13	0.64	--	--	--	--	--	--	--	--	--	--
	Oct-12	0.43	0.20 J	190	--	--	--	--	--	580	0.83	0.34
	Oct-11	0.43	--	--	--	--	--	--	--	--	--	--
	Oct-10	0.25	--	--	--	--	--	--	--	--	--	--
Oct-09	0.00	--	--	--	--	--	--	--	--	--	--	
T-10B	Oct-17	0.18	--	--	--	--	--	--	--	--	--	--
	Oct-16	0.22	--	--	--	--	--	--	--	--	--	--
	Oct-15	0.17	--	--	--	--	--	--	--	--	--	--
	Oct-14	0.15	--	--	--	--	--	--	--	--	--	--
	Oct-13	3.32	--	--	--	--	--	--	--	--	--	--
	Oct-12	0.27	<0.50	170	--	--	--	--	--	990	1.6	0.31
	Oct-11	0.11	--	--	--	--	--	--	--	1,400	1.800	0.320
	Oct-10	0.30	--	--	--	--	--	--	--	1,700	1.200	0.360
	Oct-09	3.7	--	--	--	--	--	--	--	1,700	0.710	0.730
	Oct-08	--	--	--	--	--	--	--	--	4,000	1.6	1.4
	Jan-16	--	--	90	--	<1.0	--	--	60	6,000	4.2	0.32
	Oct-07	0.00	--	210	--	<1.0	--	--	81	3,000	0.93	0.450
	Jul-07	0.00	--	--	--	--	--	--	--	1,500	0.66	0.480
	Apr-07	0.00	--	250	--	<1.0	--	--	94	1,700	0.71	0.220
Oct-06	1.47	--	220	--	<1.0	--	--	76	3,600	0.7	0.044	
Jul-06	0.18	--	240	--	<1.0	--	--	64	6,100	0.88	0.088	
Apr-06	0.00	--	200	--	<1.0	--	--	69	10,000	2.0	0.18	
Oct-05	0.00	--	110	--	<1.0	--	--	69	2900	5.7	2.9	
T-4B	Oct-17	0.29	--	--	--	--	--	--	--	--	--	--
	Oct-16	3.07	--	--	--	--	--	--	--	--	--	--
	May-16	6.60	--	--	--	--	--	--	--	--	--	--
	Oct-15	4.64	--	--	--	--	--	--	--	--	--	--
	Jun-15	5.91	--	--	--	--	--	--	--	--	--	--
	Oct-14	0.2	--	--	--	--	--	--	--	--	--	--
	Oct-13	3.26	--	--	--	--	--	--	--	--	--	--
	Oct-12	1.18	--	--	--	--	--	--	--	--	--	--
	Oct-11	0.65	--	--	--	--	--	--	--	3,500	0.080	0.220
	Oct-10	1.11	--	--	--	--	--	--	--	2,900	0.078	0.200
	Oct-09	3.82	--	--	--	--	--	--	--	2,500	0.089	1.400
	Oct-08	0	--	--	--	--	--	--	--	1.5	0.096	0.2
	Oct-07	0.65	--	200	--	<1.0	--	--	68	2.2	0.120	0.400
	Jul-07	0.00	--	--	--	--	--	--	--	--	--	--
	May-07	8.33	--	--	--	--	--	--	--	0.89	0.092	0.084
	Oct-06	3.22	--	--	--	--	--	--	--	2.1	0.12	0.4
	Apr-06	0.54	--	--	--	--	--	--	--	13	0.13	0.18
	Jan-06	--	--	--	--	--	--	--	--	17	0.20	0.31
	Oct-05	0.00	--	200	--	<1.0	--	--	71	4.5	0.12	0.16
	Jul-05	0.68	1.0	220	--	<1.0	0.49	--	76	1.6	0.14	0.20
Apr-05	0.16	--	200	--	--	--	--	60	--	--	--	

**Historical Groundwater Electron Acceptor/Metabolic By-Product Results**  
**Former TRW Microwave Site**  
**825 Stewart Drive, Sunnyvale, California**

Well	Date	Electron Acceptors				Metabolic By-Products						
		Dissolved Oxygen (mg/L)	Nitrite and Nitrate (mg/L)	Sulfate (mg/L)	Total Iron (mg/L)	Ferrous Iron (mg/L)	Dissolved Manganese (mg/L)	Sulfide (mg/L)	Chloride (mg/L)	Methane (µg/L)	Ethane (µg/L)	Ethene (µg/L)
T-4B (continued)	Jan-05	0.27	--	--	--	--	--	--	--	--	--	--
	Oct-04	--	1.3	200	--	--	--	--	69	--	--	--
	Apr-04	0.00	1.1	200	--	<1.0	--	--	65	2.1	0.088	0.079
	Jan-04	0.00	1.1	--	--	<1.0	--	--	84	3.6	0.20	0.13
	Oct-99	0.42	<0.05	280	0.3	<1.0	0.32	2.4	74	1.1	0.15	0.062
T-5B	Oct-17	0.27	--	--	--	--	--	--	--	--	--	--
	Oct-16	2.85	--	--	--	--	--	--	--	--	--	--
	Oct-15	0.50	--	--	--	--	--	--	--	--	--	--
	Oct-14	0.26	--	--	--	--	--	--	--	--	--	--
	Oct-13	0.25	--	--	--	--	--	--	--	--	--	--
	Oct-12	0.41	--	--	--	--	--	--	--	--	--	--
	Oct-11	0.45	--	--	--	--	--	--	--	--	--	--
	Oct-10	0.68	--	--	--	--	--	--	--	--	--	--
T-17B	Oct-09	4.63	--	--	--	--	--	--	--	--	--	--
	Oct-17	0.16	--	130	--	--	--	--	--	49 n	1.0 n	0.096 Jn
	Oct-16	0.35	--	110	--	--	--	--	--	22 n	0.54 n	0.086 Jn
	May-16	0.45	--	130	--	--	--	--	--	57 n	0.79 n	0.12 n
	Oct-15	0.22	--	130	--	--	--	--	--	87	1.3	0.14
	Jun-15	0.33	--	120	--	--	--	--	--	130	1.6	0.19
	Oct-14	0.2	--	150	--	--	--	--	--	140	1.2	0.87
	Apr-14	0.57	--	160	--	--	--	--	--	100	0.96	0.22
	Oct-13	0.77	--	150	--	--	--	--	--	170	2	0.61
	May-13	0.35	--	140	--	--	--	--	--	140	2.1	0.84
	Oct-12	0.29	<0.50	130	--	--	--	--	--	190	2.8	1.7
	Apr-12	0.46	--	140	--	--	--	--	--	4.7	1.6	0.90
	Oct-11	0.15	--	--	--	--	--	--	--	1.600	0.054	0.043
	Oct-10	0.27	--	--	--	--	--	--	--	0.860	0.030	0.061
	Oct-09	3.23	--	--	--	--	--	--	--	2.9	0.045	0.070
	Oct-08	8.18	--	--	--	--	--	--	--	8.7	0.11	0.039
	Oct-07	0.00	--	150	--	<0.05	--	--	72	2.0	0.052	0.300
	Jul-07	0.00	--	--	--	--	--	--	--	--	--	--
	May-07	0.00	--	--	--	--	--	--	--	1.9	0.093	0.056
	Oct-06	3.15	--	--	--	--	--	--	--	1.2	0.056	0.028
Jul-06	0.23	--	--	--	--	--	--	--	--	--	--	
Apr-06	0.00	--	--	--	--	--	--	--	7.0	0.078	0.13	
Jan-06	5.35	--	--	--	--	--	--	--	5.0	0.081	0.11	
T-18B	Oct-17	0.31	--	--	--	--	--	--	--	--	--	--
	Oct-16	1.54	--	--	--	--	--	--	--	--	--	--
	Oct-15	0.62	--	--	--	--	--	--	--	--	--	--
	Oct-14	0.43	--	--	--	--	--	--	--	--	--	--
	Oct-13	0.72	--	--	--	--	--	--	--	--	--	--
May-13	0.17	--	--	--	--	--	--	--	--	--	--	
T-19B	Oct-17	0.29	--	--	--	--	--	--	--	--	--	--
	Oct-16	5.2	--	--	--	--	--	--	--	--	--	--
	Oct-15	0.59	--	--	--	--	--	--	--	--	--	--
	Oct-14	0.35	--	--	--	--	--	--	--	--	--	--
	Oct-13	0.32	--	--	--	--	--	--	--	--	--	--
May-13	0.13	--	--	--	--	--	--	--	--	--	--	
T-20B	Oct-17	0.23	--	--	--	--	--	--	--	--	--	--
T-21B	Oct-17	0.17	--	--	--	--	--	--	--	--	--	--
T-22B	Oct-17	0.17	--	--	--	--	--	--	--	--	--	--
T-23B	Oct-17	0.38	--	--	--	--	--	--	--	--	--	--
T-24B	Oct-17	0.26	--	--	--	--	--	--	--	--	--	--
Zone B2 Aquifer Wells												
T-2C	Sep-14	12.00	--	--	--	--	--	--	--	--	--	--
	Apr-14	2.23	--	--	--	--	--	--	--	--	--	--
	Oct-13	6.06	--	--	--	--	--	--	--	--	--	--
	Oct-12	1.60	--	--	--	--	--	--	--	--	--	--
	Oct-11	0.88	--	--	--	--	--	--	--	--	--	--
	Oct-10	6.31	--	--	--	--	--	--	--	--	--	--
	Oct-09	0.00	--	--	--	--	--	--	--	--	--	--
	Oct-08	1.65	--	--	--	--	--	--	--	--	--	--
	Oct-07	3.81	--	--	--	--	--	--	--	--	--	--
	Oct-01	0.00	1.5	170	0.13	<1.0	0.16	<2.0	70	5.0	0.069	4.0
T-10C	Oct-17	0.34	--	--	--	--	--	--	--	--	--	--
	Oct-16	0.79	--	--	--	--	--	--	--	--	--	--
	May-16	0.43	--	--	--	--	--	--	--	--	--	--
	Oct-15	0.18	--	--	--	--	--	--	--	--	--	--
	Jun-15	0.65	--	--	--	--	--	--	--	--	--	--
	Oct-14	0.22	--	--	--	--	--	--	--	--	--	--
	Oct-13	0.52	--	--	--	--	--	--	--	--	--	--
	Oct-12	3.01	--	--	--	--	--	--	--	--	--	--
	Oct-11	0.50	--	--	--	--	--	--	--	--	--	--
T-11C	Oct-10	0.32	--	--	--	--	--	--	--	--	--	--
	Oct-09	4.48	--	--	--	--	--	--	--	--	--	--
	Oct-17	0.20	--	--	--	--	--	--	--	--	--	--
	Oct-16	3.15	--	--	--	--	--	--	--	--	--	--
	Oct-15	3.78	--	--	--	--	--	--	--	--	--	--
	Oct-14	0.15	--	--	--	--	--	--	--	--	--	--
	Oct-13	0.24	--	--	--	--	--	--	--	--	--	--
	Oct-12	0.42	--	--	--	--	--	--	--	--	--	--
Oct-11	0.55	--	--	--	--	--	--	--	--	--	--	
T-12C	Oct-10	0.39	--	--	--	--	--	--	--	--	--	--
	Oct-09	0.27	--	--	--	--	--	--	--	--	--	--
	Oct-17	0.29	--	--	--	--	--	--	--	--	--	--
	Oct-16	0.23	--	--	--	--	--	--	--	--	--	--
	Oct-15	0.47	--	--	--	--	--	--	--	--	--	--
	Oct-14	0.24	--	--	--	--	--	--	--	--	--	--
	Oct-13	0.34	--	--	--	--	--	--	--	--	--	--
	Oct-12	1.70	--	--	--	--	--	--	--	--	--	--
Oct-11	0.42	--	--	--	--	--	--	--	--	--	--	
Oct-10	0.86	--	--	--	--	--	--	--	--	--	--	
Oct-09	6.21	--	--	--	--	--	--	--	--	--	--	

**Historical Groundwater Electron Acceptor/Metabolic By-Product Results**  
**Former TRW Microwave Site**  
**825 Stewart Drive, Sunnyvale, California**

Well	Date	Electron Acceptors				Metabolic By-Products						
		Dissolved Oxygen (mg/L)	Nitrite and Nitrate (mg/L)	Sulfate (mg/L)	Total Iron (mg/L)	Ferrous Iron (mg/L)	Dissolved Manganese (mg/L)	Sulfide (mg/L)	Chloride (mg/L)	Methane (µg/L)	Ethane (µg/L)	Ethene (µg/L)
Zone B3 Aquifer Well												
T-9C	Oct-17	0.45	--	--	--	--	--	--	--	--	--	--
	Oct-16	1.19	--	--	--	--	--	--	--	--	--	--
	Oct-15	0.32	--	--	--	--	--	--	--	--	--	--
	Oct-14	0.34	--	--	--	--	--	--	--	--	--	--
	Oct-13	0.36	--	--	--	--	--	--	--	--	--	--
	Oct-12	0.51	--	--	--	--	--	--	--	--	--	--
	Oct-11	0.60	--	--	--	--	--	--	--	--	--	--
	Oct-10	1.32	--	--	--	--	--	--	--	--	--	--
	Oct-09	0.00	--	--	--	--	--	--	--	--	--	--

Notes:

- (a) One month post EVO injection (just before pure soybean oil injection)
- (b) Immediately after EVO injection
- (c) Immediately before EVO injection
- mg/L = milligram per liter
- µg/L = microgram per liter
- = not analyzed/measured
- J = estimated value
- n = Pace Analytical Laboratory does not have NELAP certification for this method.

**Historical Groundwater Microbial Results  
Former TRW Microwave Site  
825 Stewart Drive, Sunnyvale, California**

Well	Date	Microbial Population	Functional Genes		
		<i>Dehalococcoides</i> , sp.	<i>tceA</i>	<i>bvcA</i>	<i>vcrA</i>
		cells/mL			
Eductor-11	4/15/2014	3.41E+03	--	--	--
	10/17/2013	1.47E+01	--	--	--
	10/17/2012	4.88E+02	2.06E+02	3.20E+00	1.80E+00(J)
	10/17/2011	8.35E+01	3.39E+01	9.00E-01 (J)	5.80E+00
	10/13/2010	2.78E+06	1.62E+06	5.54E+05	4.03E+05
	10/8/2009	3.49E+04	9.10E+03	7.86E+03	2.12E+03
	10/21/2008	2.89E+05	--	--	--
	4/30/2007	4.04E+05	--	--	--
	10/17/2006	1.10E+06	--	--	--
	4/13/2006	5.92E+04	--	--	--
9/12/2005	5.64E+04	--	--	--	
T-2A	4/15/2014	4.16E+03	--	--	--
	10/17/2013	6.22E+02	--	--	--
	10/17/2012	1.23E+05	3.09E+04	1.29E+02	1.65E+04
	10/17/2011	2.67E+05	1.26E+05	6.08E+02	1.54E+05
	10/13/210	1.10E+03	1.12E+02	1.42E+02	7.86E+02
	10/8/2009	5.87E+02	2.01E+01	6.29E+01	5.28E+02
	10/21/2008	6.69E+02	--	--	--
	4/9/2008	2.26E+02	1.65E+01	3.93E+00	2.73E+02
T-2B	10/17/2013	4.93E+01	--	--	--
	10/17/2012	8.48E+02	4.00E+02	3.30E+00	4.86E+01
T-7A	10/17/2012	2.39E+03	2.34E+01	1.78E+01	<5.00E-01
	10/17/2012	2.30E+03	8.10E+00	1.64E+01	<5.00E-01
T-7B	10/16/2012	9.06E+02	6.00E-01	2.10E+00	3.52E+01
	10/16/2012	6.93E+02	1.80E+00	2.70E+00	2.32E+01
T-8A	10/15/2012	6.30E+01	1.12E+01	8.20E+00	1.60E+00
	10/21/2008	1.52E+02	--	--	--
	4/9/2008	1.35E+02	1.19E+01	1.21E+01	1.29E+02
	10/10/2007	9.48E+03	--	--	--
	4/30/2007	3.50E+00	--	--	--
	10/16/2006	2.29E+02	--	--	--
	4/13/2006	1.38E+03	--	--	--
11/7/2005	1.01E+02	--	--	--	
T-9A	10/16/2012	3.45E+01	2.43E+01	<5.00E-01	1.00E+00
T-9B	10/16/2012	1.02E+04	5.72E+02	5.47E+02	1.74E+02
T-10B	10/16/2012	1.00E+00(J)	<5.00E-01	<5.00E-01	<5.00E-01

**Historical Groundwater Microbial Results  
Former TRW Microwave Site  
825 Stewart Drive, Sunnyvale, California**

Well	Date	Microbial Population	Functional Genes		
		<i>Dehalococcoides</i> , sp.	<i>tceA</i>	<i>bvcA</i>	<i>vcrA</i>
		cells/mL			
T-13A	10/11/2017	3.25E+01	--	--	--
	5/26/2016	7.23E+03	--	--	--
	5/26/2016	7.61E+03	--	--	--
	10/10/2016	3.40E+04	--	--	--
	10/14/2015	3.43E+04	2.16E+03	2.84E+03	6.30E+03
	6/26/2015	2.56E+04	--	--	--
	6/26/2015	2.72E+04	--	--	--
	10/14/2014	2.68E+04	2.90E+02	9.80E+03	9.15E+02
	10/17/2013	6.97E+02	--	--	--
	10/15/2012	4.70E+03	4.36E+03	1.40E+03	1.03E+03
	10/21/2008	3.08E+01	--	--	--
	4/9/2008	7.65E+00	5.80E-01	1.07E+01	9.45E+00
	10/10/2007	<4.17E+00	--	--	--
	4/30/2007	<4.95E-01	--	--	--
	10/16/2006	5.54E+00	--	--	--
4/13/2006	5.48E+01	--	--	--	
11/7/2005	6.45E-01	--	--	--	
T-14A	10/10/2016	--	--	--	--
	10/14/2015	3.14E+03	47.4	339	557
	11/7/2005	1.69E+01	--	--	--
T-15A	10/16/2012	<5.00E-01	<5.00E-01	<5.00E-01	<5.00E-01
	5/1/2007	1.59E+01	--	--	--
	10/17/2006	1.01E+03	--	--	--
	4/13/2006	1.21E+04	--	--	--
T-17A	10/15/2012	2.00E-01(J)	<5.00E-01	<5.00E-01	<5.00E-01
T-17B	10/15/2012	3.35E+01	<5.00E-01	<5.00E-01	<5.00E-01
T-19A	10/11/2017	1.56E+02	--	--	--
	5/26/2016	8.65E+03	--	--	--
	10/10/2016	2.72E+03	--	--	--
	6/26/2015	7.38E+03	--	--	--
	10/14/2014	2.12E+03	2.01E+01	3.58E+02	2.22E+01
	10/17/2013	1.20E+01	--	--	--
	10/15/2012	3.34E+02	2.91E+01	4.66E+01	1.41E+01
	10/17/2011	4.15E+03	7.59E+02	2.64E+02	8.23E+02
	4/9/2008	1.33E+03	2.38E+02	3.53E+02	1.01E+03
10/10/2007	<4.35E+00	--	--	--	
T-23A	10/11/2017	1.00E+02	--	--	--
	5/26/2016	4.16E+04	--	--	--
	10/10/2016	6.80E+03	--	--	--
	10/14/2015	5.11E+03	3.15E+02	1.72E+02	1.44E+03
	6/26/2015	1.64E+04	--	--	--
	10/14/2014	1.70E+04	7.25E+02	4.26E+02	6.51E+02
	10/17/2013	2.33E+03	--	--	--
	10/15/2012	2.25E+02	3.09E+01	5.90E+00	1.12E+01
	10/21/2008	2.72E+01	--	--	--
	4/9/2008	2.11E+01	2.31E+00	1.00E+01	1.92E+01
10/10/2007	<1.49E+00	--	--	--	
T-25A	10/21/2008	3.77E+02	--	--	--
	4/9/2008	1.65E+02	2.79E+01	1.65E+01	1.27E+02
	10/10/2007	1.10E+00	--	--	--

**Historical Groundwater Microbial Results  
Former TRW Microwave Site  
825 Stewart Drive, Sunnyvale, California**

Well	Date	Microbial Population	Functional Genes		
		<i>Dehalococcoides</i> , sp.	<i>tceA</i>	<i>bvcA</i>	<i>vcrA</i>
		cells/mL			
T-2B	10/17/2011	5.20E+03	2.46E+03	4.07E+01	2.76E+03
T-8B	10/16/2012	4.14E+01	4.90E+00	4.60E+00	<4.00E-01
	4/30/2007	8.77E+00	--	--	--
	10/17/2006	1.21E+02	--	--	--
	4/13/2006	4.43E+00	--	--	--
38S	10/16/2012	1.19E+03	5.20E+01	6.40E+01	3.10E+00

Notes:

cells/mL = cells per milliliter

DUP = duplicate sample

**Compound-Specific Stable Carbon Isotope Analysis Results**  
**Former TRW Microwave Site**  
**825 Stewart Drive, Sunnyvale, California**

Well	Date	Concentration (µg/L)			δ <sup>13</sup> C (‰)			δ <sup>37</sup> Cl (‰)
		TCE	cDCE	VC	TCE	cDCE	VC	
Eductor (Destroyed 2014)	4/15/14 - 15 feet	--	--	--	-15.57	-25.12	-25.72	--
	4/15/14 - 11 feet	--	--	--	-18.48	-25.42	-25.08	--
	10/17/2013	5,800	60,000	--	-18.77	-24.33	--	--
	10/17/2012	830	67,000	6,000	-16.82	-25.76	-26.16	--
	10/17/2011	45	8,900	1,700	-18.46	-25.31	-28.99	--
	10/12/2010	4,000 J	100,000	91,000	NE*	-18.96	-27.05	--
	10/8/2009	30	80,000	--	NE*	-21.21	--	--
	10/21/2008	100,000	20,000	--	-25.37	-19.39	--	--
	4/9/2008	30,000	9,000	--	-25.43	-18.12	--	--
	11/21/2007	<1,000	30,000	--	-21.41	-14.95	--	--
4/30/2007	6	30,000	--	NE*	-9.07	--	--	
T-2A (Destroyed 2014)	4/15/2014	--	--	--	--	-11.68	-31.48	--
	10/17/2013	0.9 J	250	--	-16.17	-3.23	--	--
	10/17/2012	0.5 J	130	120	--	-6.42	-18.47	--
	10/17/2011	0.4 J	12	16	-18.85	2.21	-6.29	--
	10/12/2010	4 J	10,000	13,000	NE*	-11.85	-29.73	--
	10/8/2009	2 JM	1,000 M	--	NE*	-14.14	--	--
	10/21/2008	6	100	--	-15.34	-11.32	--	--
	4/9/2008	<5	100	--	-17.89	-11.87	--	--
	10/9/2007	<5	700	--	NE*	-18.08	--	--
	4/30/2007	<5	200	--	-9.65	-12.61	--	--
T-3A (Destroyed 2014)	10/15/2013	150	66	--	-21.65	-21.80	--	--
	11/16/2011	150	45	--	-22.5	-24.06	--	--
	10/20/2008	200	9	--	-22.91	-24.23	--	--
	4/10/2008	100	6	--	-22.60	-23.95	--	--
	10/9/2007	210	20	--	-22.68	-25.00	--	--
	5/1/2007	300	40	--	-22.82	-22.45	--	--
T-6A	5/1/2007	10	20	--	-21.18	-24.28	--	--
T-7A	10/10/2017	160	84	<2.5	-19.47	-20.35	--	-1.36
	10/11/2016	190	80	<2.5	-20.84	-21.37	-24.65 J	--
	10/13/2015	170	79	<2.5	-22.09	-22.63	--	--
	10/15/2014	220	100	--	-21.64	-22.56	--	--
	10/16/2013	190	80	--	-21.58	-22.72	--	--
	10/16/2013 (Dup)	190	82	--	-21.82	-22.86	--	--
	10/17/2012	70.0	270	--	-21.88	-22.28	--	--
	10/19/2011	120	150	2 J	-22.44	-22.27	-12.91	--
	10/20/2008	400	70	--	-21.99	-23.24	--	--
	4/10/2008	200	80	--	-21.92	-22.38	--	--
	10/9/2007	400	90	--	-22.17	-23.03	--	--
	5/1/2007	300	70	--	-22.67	-21.54	--	--
T-8A	10/12/2017	45	110	6.0	-17.24	-15.91	-29.06	-0.83
	10/11/2016	56	90	2.4	-20.66	-18.56	-32.95	--
	10/14/2015	62	100	2.5	-21.86	-20.13	--	--
	10/13/2014	150	80	1	-21.74	-20.70	-35.16 J	--
	10/16/2013	140	80	--	-21.95	-20.67	--	--
	10/15/2012	140	81	--	-22.19	-20.97	--	--
	10/18/2011	120	58	1.8J	-22.29	-20.5	-33.06	--
	10/21/2008	100	30	--	-22.06	-20.58	--	--
	4/9/2008	20	7	--	-21.61	-14.99	--	--
	10/10/2007	90	80	--	-21.82	-17.45	--	--
	4/30/2007	200	60	--	-21.81	-20.23	--	--

**Compound-Specific Stable Carbon Isotope Analysis Results**  
**Former TRW Microwave Site**  
**825 Stewart Drive, Sunnyvale, California**

Well	Date	Concentration (µg/L)			$\delta^{13}\text{C}$ (‰)			$\delta^{37}\text{Cl}$ (‰)
		TCE	cDCE	VC	TCE	cDCE	VC	
T-9A	10/10/2017	48	77	<0.50	-20.43	-18.72	--	-0.7
	10/11/2016	64	78.0	0.7	-21.16	-18.69	-6.96	--
	10/14/2015	69	66	<0.50	-22.18	-19.05	--	--
	10/14/2014	--	100	--	-21.87	-18.47	--	--
	10/15/2013	56	70	--	-22.05	-16.47	--	--
	10/16/2012	56.0	96	--	-22.81	-20.22	--	--
	10/19/2011	78	110	3.9J	-22.95	-19.83	-25.57	--
	10/21/2008	70	100	--	-22.67	-17.58	--	--
	4/10/2008	60	100	--	-22.43	-22.38	--	--
5/1/2007	100	80	--	-23.08	-19.43	--	--	
T-13A	10/11/2017	41	81	11.0	-17.17	-14.32	-25.85	-0.99
	10/10/2016	14	62	17	-19.41	-9.61	-18.72	--
	10/14/2015	23	120	4	-19.51	-12.99	--	--
	10/14/2014	--	84	35	-14.90	-4.25	-21.48	--
	10/17/2013	1.3 J	54	--	-11.47	-1.86	--	--
	10/15/2012	1.9 J	23	30	--	9.45	-0.93	--
	10/19/2011	63	62	15	-22.09	-15.39	-25.31	--
	10/23/2008	60	20	--	-21.78	-13.71	--	--
	4/9/2008	<20	30	--	-22.20	-14.32	--	--
10/10/2007	50	300	--	-20.01	-22.26	--	--	
T-16A	5/1/2007	100	60	--	-22.46	-18.12	--	--
T-17A	10/15/2012	96	5	--	-22.82	-23.68	--	--
T-19A	10/15/2012	1 J	7.0	8	--	0.73	-13.25	--
	10/17/2011	4.7J	15	16	-17.62	-2	-4.94	--
T-23A	10/18/2011	70	43	3.8	-24.74	-20.85	-24.78	--
	10/23/2008	70	20	--	-21.75	-12.26	--	--
	4/9/2008	10	30	--	-25.70	-8.44	--	--
	10/10/2007	200	100	--	-21.37	-23.65	--	--
T-25A	10/18/2011	44	45	2.9J	-22.84	-18.37	-20.85	--
	10/23/2008	80	50	--	-21.58	-15.91	--	--
	4/9/2008	20	40	--	-20.98	-17.97	--	--
	10/10/2007	70	200	--	-22.20	-21.70	--	--
T-38S	10/12/2017	61	170	6.7	-16.77	-17.85	-23.43	-0.72
	10/11/2016	50	77.0	3.1	-20.70	-20.38	-26.44	--
	10/14/2015	83	98	4.9	-21.37	-20.65	--	--
	10/16/2012	97	200	21	-21.29	-21.13	-26.65	--
T-2B (Destroyed 2014)	10/17/2013	0.6 J	110	--	-12.70	-6.75	--	--
	10/17/2012	0.8 J	88.0	200	--	-5.03	-19.4	--
T-4B	10/13/2017	5.2	650	0.6	-11.16	-17.69	--	2.65
	10/12/2016	3.7	94	<1	-1.22	-18.80	--	--
	10/12/2015	4.30	120	1.0	-3.75	-19.96	--	--
	10/15/2014	6	600	--	-15.01	-21.23	--	--
	10/16/2013	6	480	--	-11.41	-20.46	--	--
T-5B	10/11/2017	1500	54	<25	-18.22	-22.25	--	-1.86
	10/12/2016	170	8.8	<2.5	-19.71	-20.82	--	--
	10/12/2015	1,700	62	<0.50	-20.81	-24.15	--	--
	10/16/2014	1,800	69	--	-19.95	-22.93	--	--
	10/16/2013	1,400	71	--	-20.86	-23.93	--	--

**Compound-Specific Stable Carbon Isotope Analysis Results**  
**Former TRW Microwave Site**  
**825 Stewart Drive, Sunnyvale, California**

Well	Date	Concentration (µg/L)			δ <sup>13</sup> C (‰)			δ <sup>37</sup> Cl (‰)
		TCE	cDCE	VC	TCE	cDCE	VC	
T-7B	10/11/2017	190	12	<0.50	-19.22	-13.74	--	-1.86
	10/12/2016	21	1	<0.50	-21.41	-15.13	--	--
	10/13/2015	72	4.8	<0.50	-22.11	-18.06	--	--
	10/15/2014	200	17	--	-21.63	-17.68	--	--
	10/15/2013	180	13	--	-18.43	-18.43	--	--
	10/16/2012	190	18	--	-22.77	-17.88	--	--
	10/18/2011	150	12	1.3	-23.72	-18.40	--	--
T-8B	10/11/2017	<10	420	27	--	-18.88	-34.89	--
	10/11/2016	0.84	6.2	10	--	9.98	-21.12	--
	10/13/2015	1.2	29	2.2	-17.79	-8.87	-17.48	--
	10/15/2014	11	350	18	-18.22	-21.24	-30.53	--
	10/15/2013	22	230	--	-20.13	-21.56	--	--
	10/16/2012	28	280	22	-20.64	-21.76	-29.42	--
	10/18/2011	20	180	24	-21.50	-21.63	-29.55	--
T-9B	10/12/2016 (29 ft)	3.8	2.9	<0.50	-22.11	-22.54	--	--
	10/12/2016 (34 ft)	100	93	<2.5	-22.39	-22.52	-23.81	--
	10/13/2015	150	150	<2.5	-23.82	-23.86	--	--
	10/16/2014	370	240	4	-23.38	-24.11	-22.04	--
	10/16/2013	290	190	--	-23.39	-23.72	--	--
	10/16/2012	130	370	9	-23.40	-25.07	-21.46	--
	10/19/2011	89	270	7.1	-24.03	-25.19	-17.23	--
T-10B	10/10/2017	41	150	50	-20.46	-17.35	-14.74	-0.61
	10/10/2016	<0.50	8.6	61	--	20.74	-19.60	--
	10/14/2015	31	97	1.8	-21.79	-18.48	--	--
	10/13/2014	56	190	18	-22.00	-17.43	-29.75	--
	10/15/2013	14	46	--	-20.20	-13.82	--	--
	10/16/2012	55	160	42	-22.92	-16.22	-26.51	--
T-17B	10/12/2017	210	370	<5.0	-17.63	-18.28	--	-1.07
	10/11/2016	190	200.0	<2.5	-21.13	-20.60	-40.58 J	--
	10/14/2015	280	290	0.5	-21.33	-21.39	--	--
	10/16/2014	88	480	--	-19.89	-20.96	--	--
	10/17/2013	150	350	--	-21.23	-20.93	--	--
	10/15/2012	260	220	--	-21.34	-21.95	--	--
T-18B	10/14/2013	<5.0 (U)	<5.0 (U)	--	--	--	--	--
T-19B	10/14/2013	59	2.2 (J)	--	-20.78	-23.63	--	--
T-20B	10/10/2017	230	280	<5.0	-19.47	-20.35	--	-0.86
T-21B	10/12/2017	250	460	<0.50	-16.32	-19.01	--	-1.3
T-22B	10/13/2017	97	130	0.6	-18.47	-19.46	--	-1.15
T-23B	10/10/2017	86	100	0.6	-20.8	-21.06	--	-0.77
T-24B	10/13/2017	63	130	4.0	-19.81	-22.18	-20.38	-0.14
T-2C	10/14/2014	390	290	46	-22.07	-26.51	-27.70	--

Notes:

VOC concentrations are screening-level data from CSIA laboratory

\* = Concentration too low to quantify carbon-13 ratio

µg/L = Microgram per liter

‰ = Per mil

C = Carbon

Cl = Chloride

J = Estimated value

M = Recovery/RPD poor for MS/MSD, SAMP/DUP

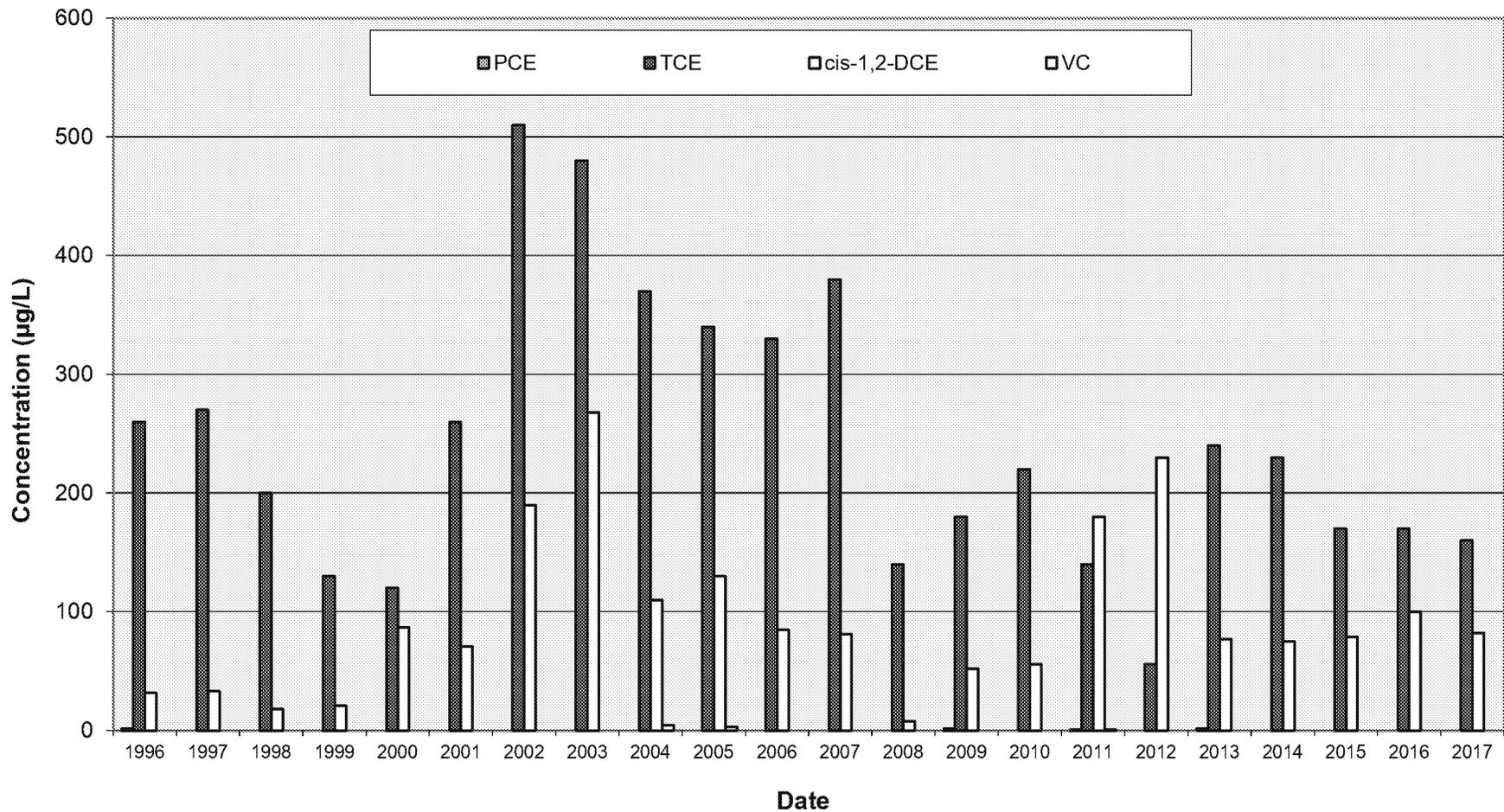
NE = Not estimated

-- = Not Analyzed

## **Appendix D**

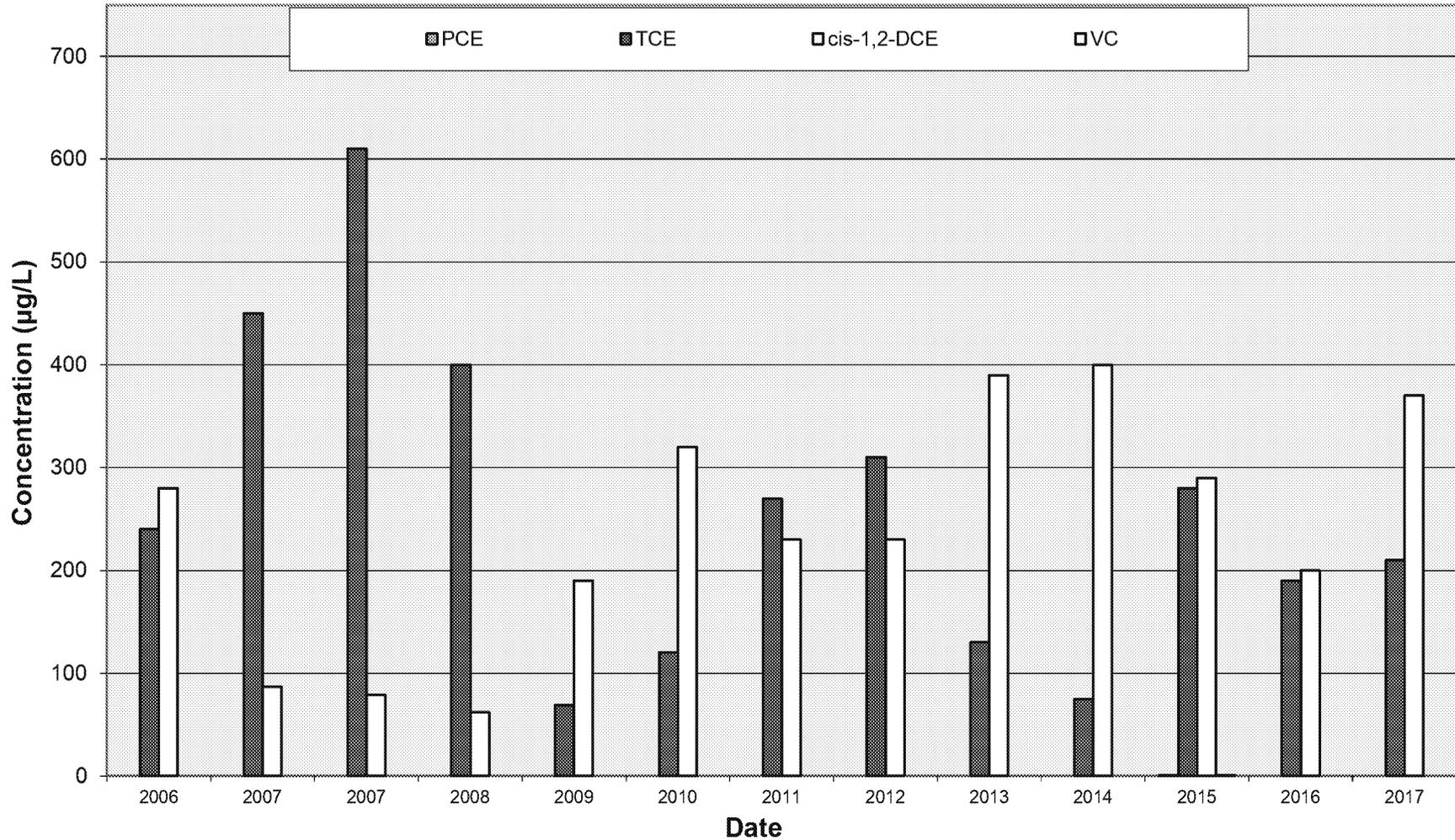
### **Chlorinated Ethene Concentration Trend Plots for Selected Wells**

## Chlorinated Ethene Concentration Trend Plot for Well T-7A



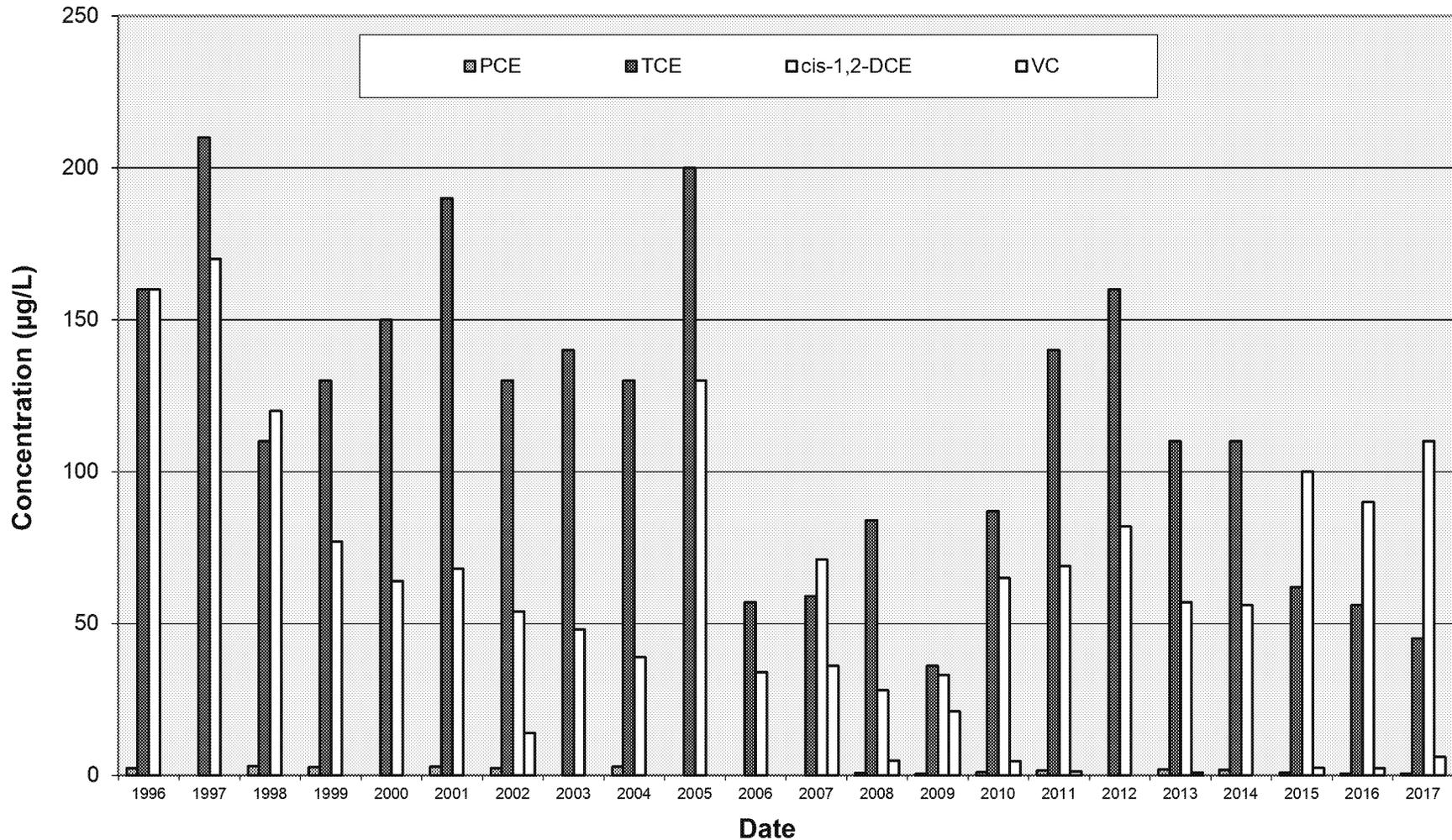
.Note: Suspension of groundwater extraction at wells Eductor, T-2A, T-8A, and T-9A occurred on April 6, 2001  
 .Enhanced anaerobic bioremediation program initiated in October 2000

## Chlorinated Ethene Concentration Trend Plot for Well T-17B



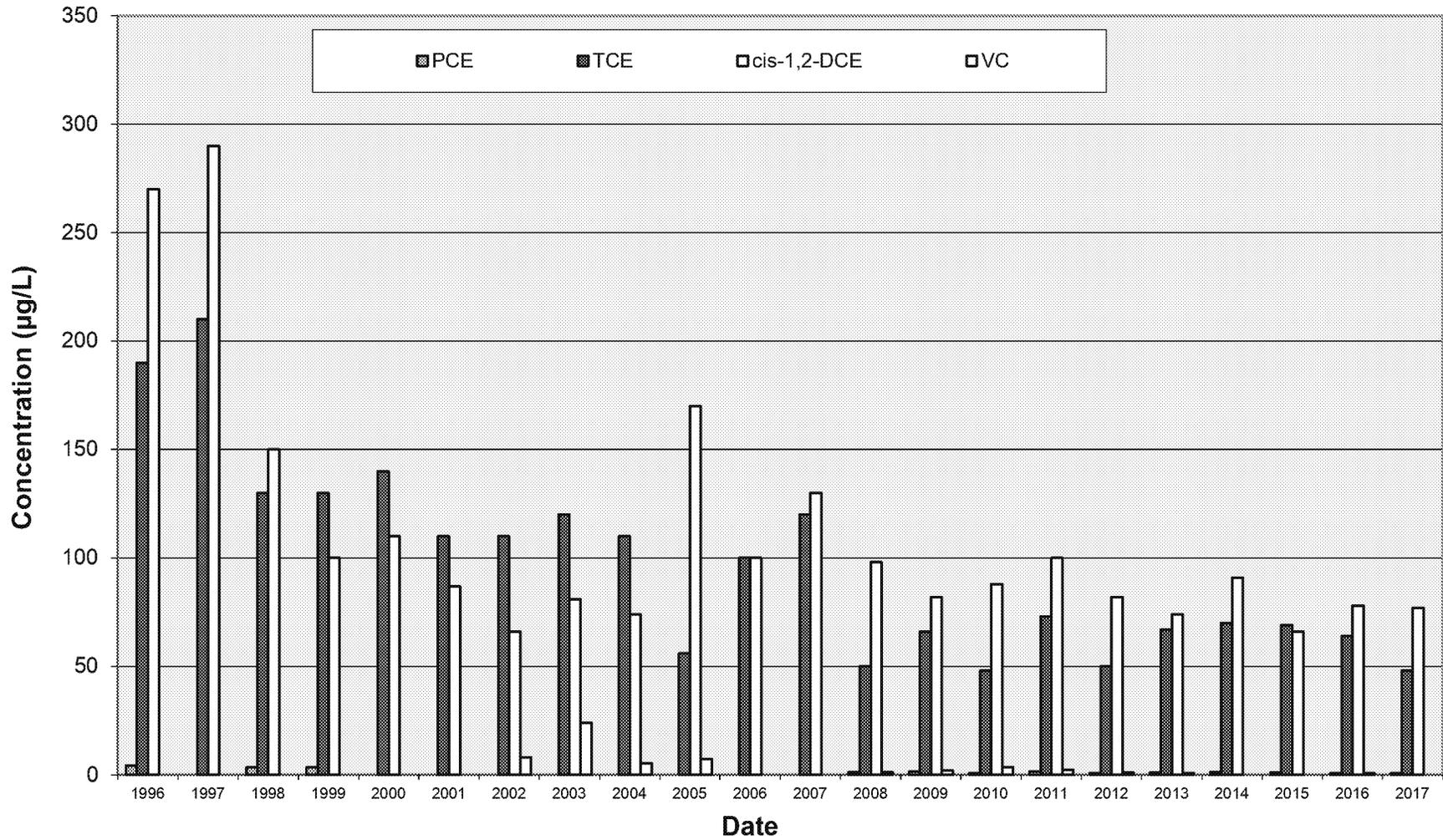
.Note: Well installed in August 2005. Enhanced anaerobic reductive dechlorination program initiated in October 2000

## Chlorinated Ethene Concentration Trend Plot for Well T-8A



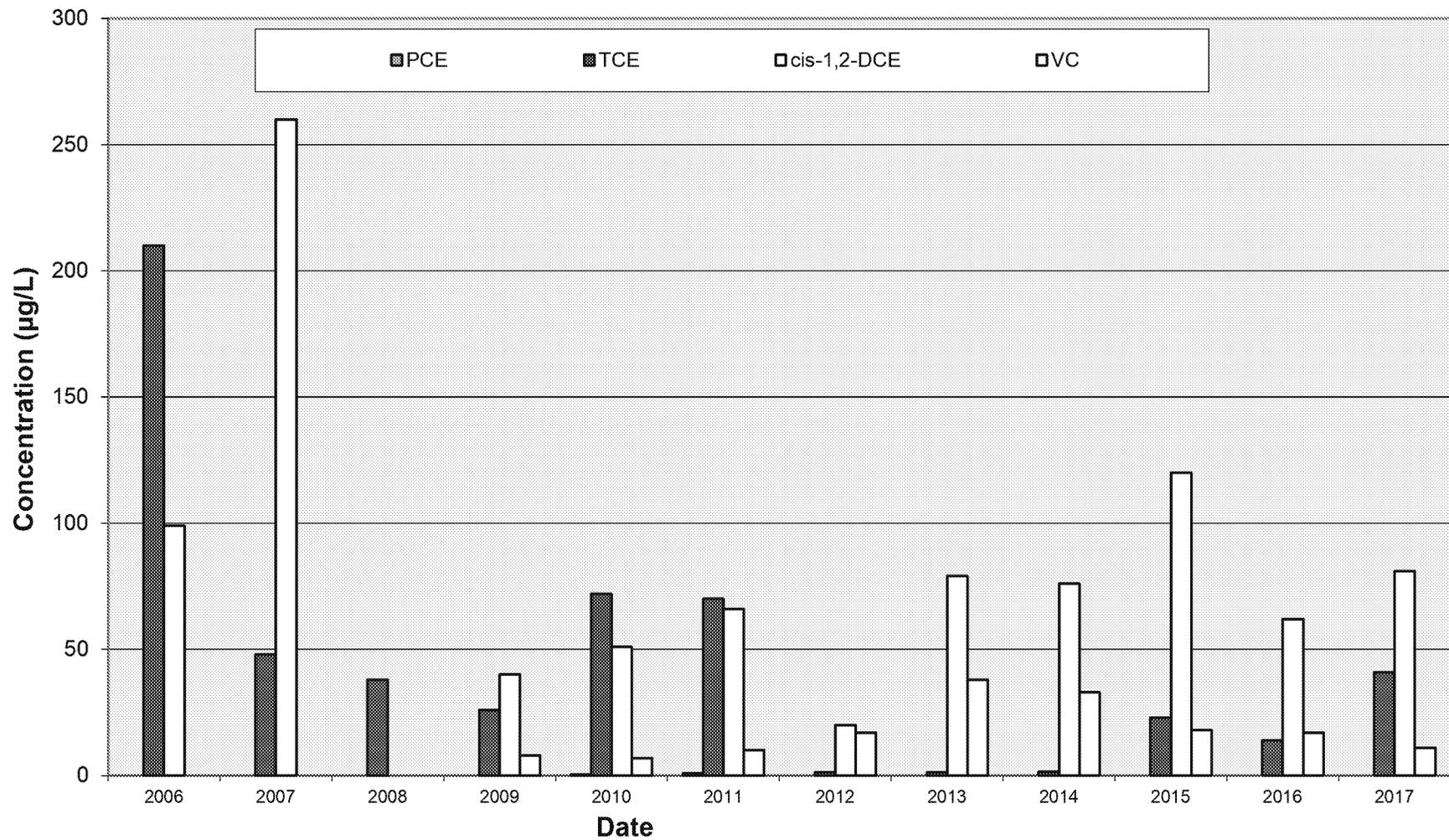
.Note: Suspension of groundwater extraction occurred on April 6, 2001. Enhanced bioremediation program initiated in October 2000

## Chlorinated Ethene Concentration Trend Plot for Well T-9A



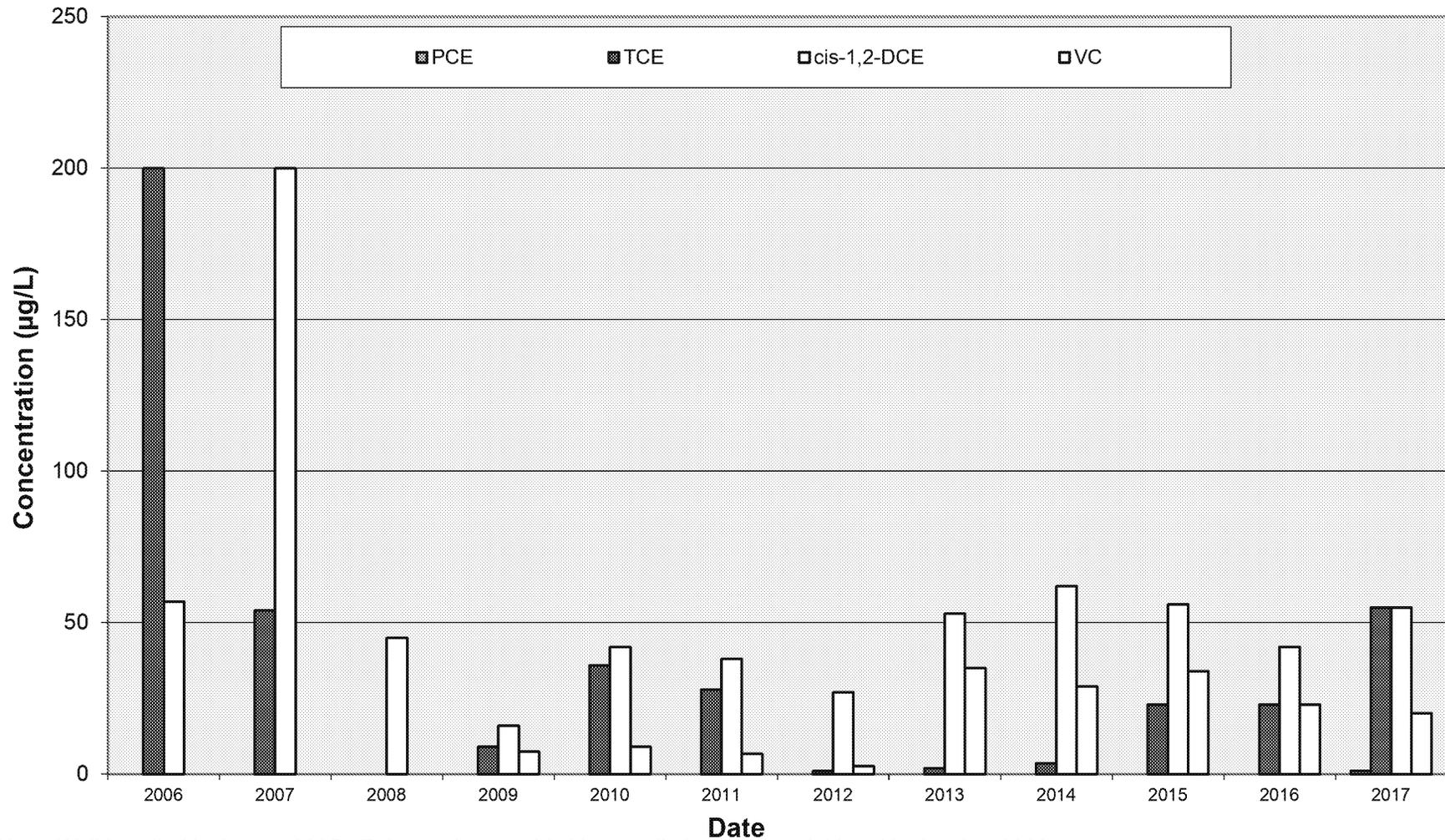
.Note: Suspension of groundwater extraction occurred on April 6, 2001. Enhanced bioremediation program initiated in October 2000

## Chlorinated Ethene Concentration Trend Plot for Well T-13A



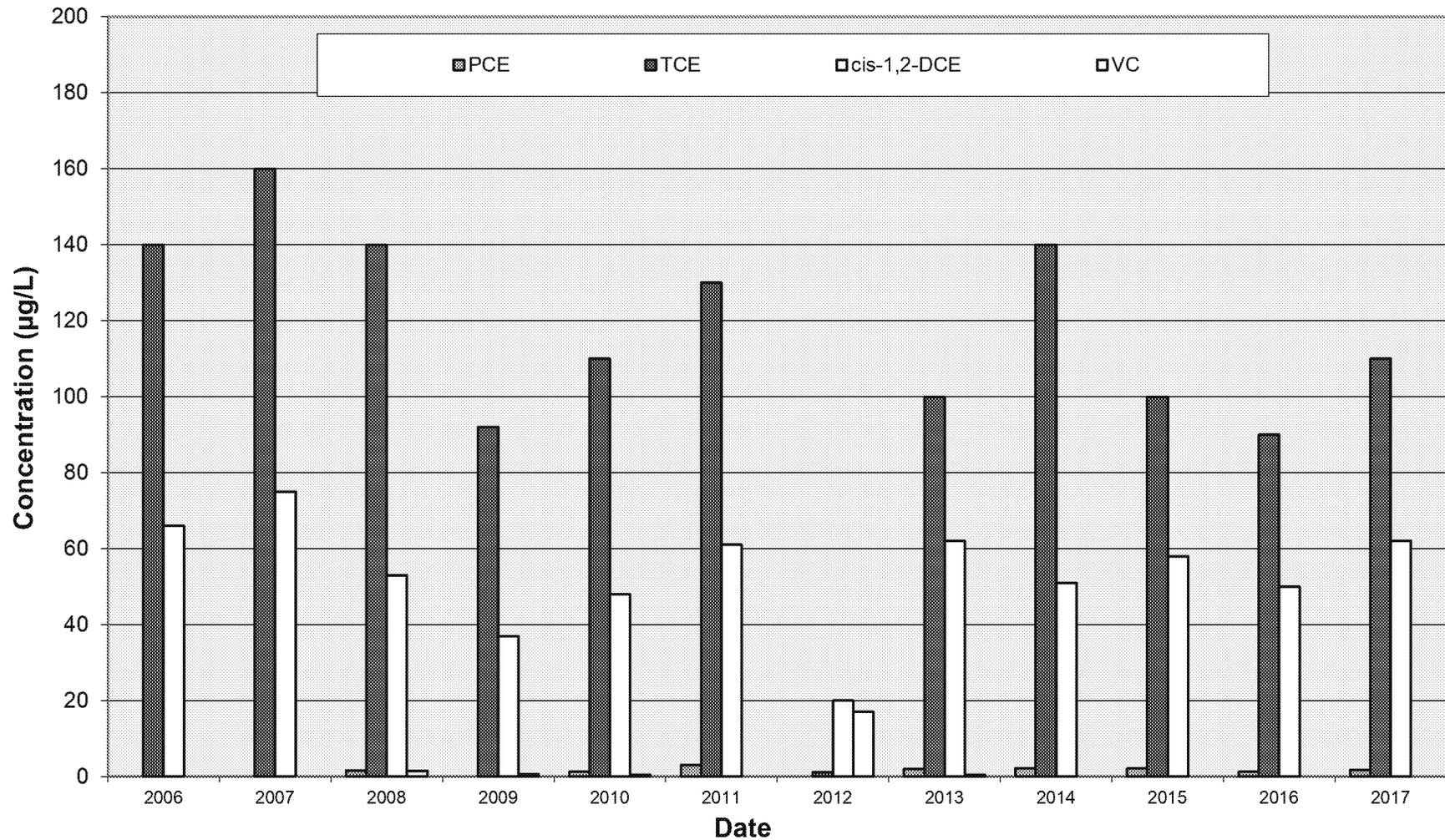
.Note: Well installed in August 2005. Enhanced anaerobic bioremediation program initiated in October 2000

## Chlorinated Ethene Concentration Trend Plot for Well T-14A



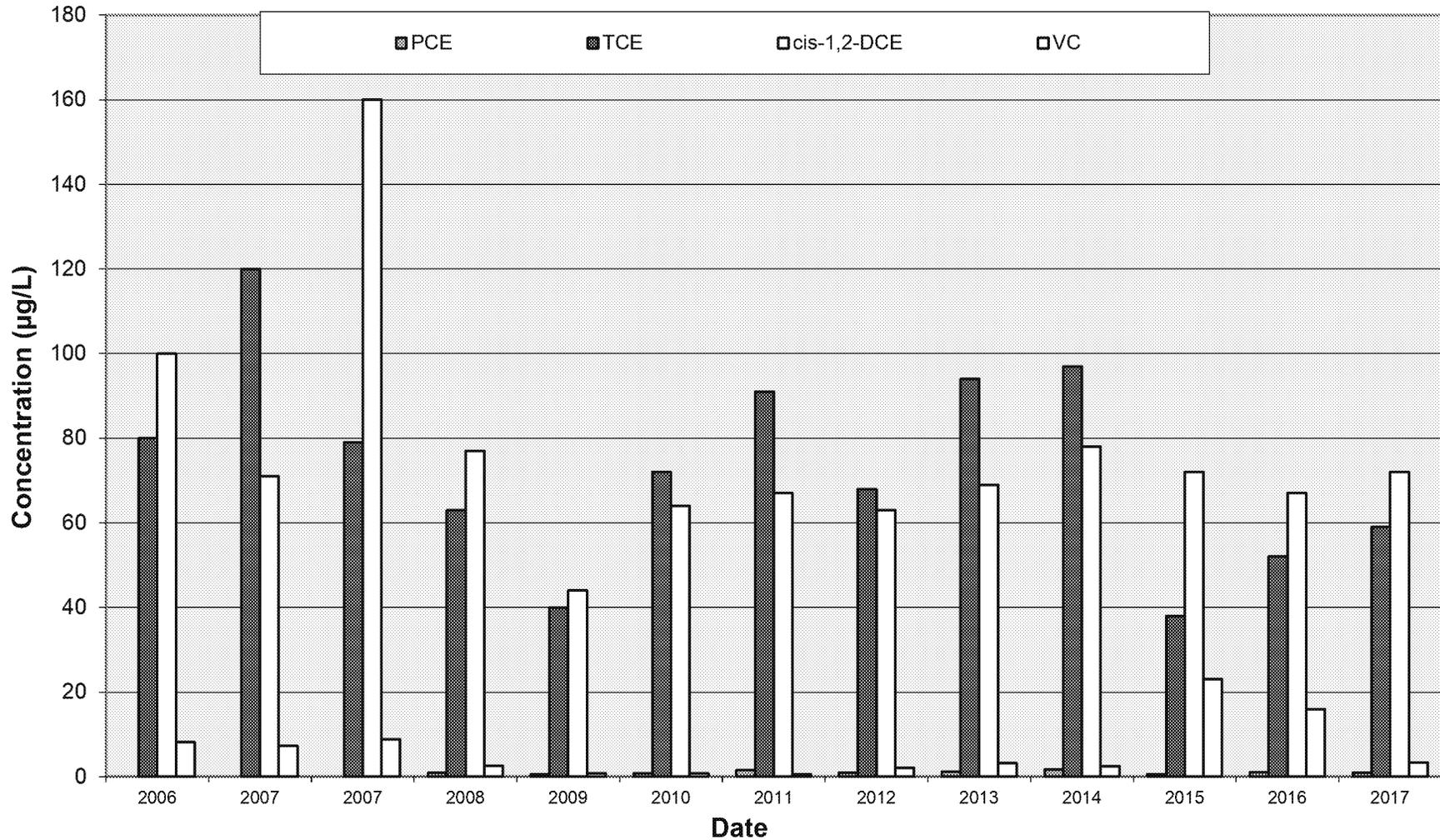
.Note: Well installed in August 2005. Enhanced anaerobic bioremediation program initiated in October 2000

## Chlorinated Ethene Concentration Trend Plot for Well T-15A



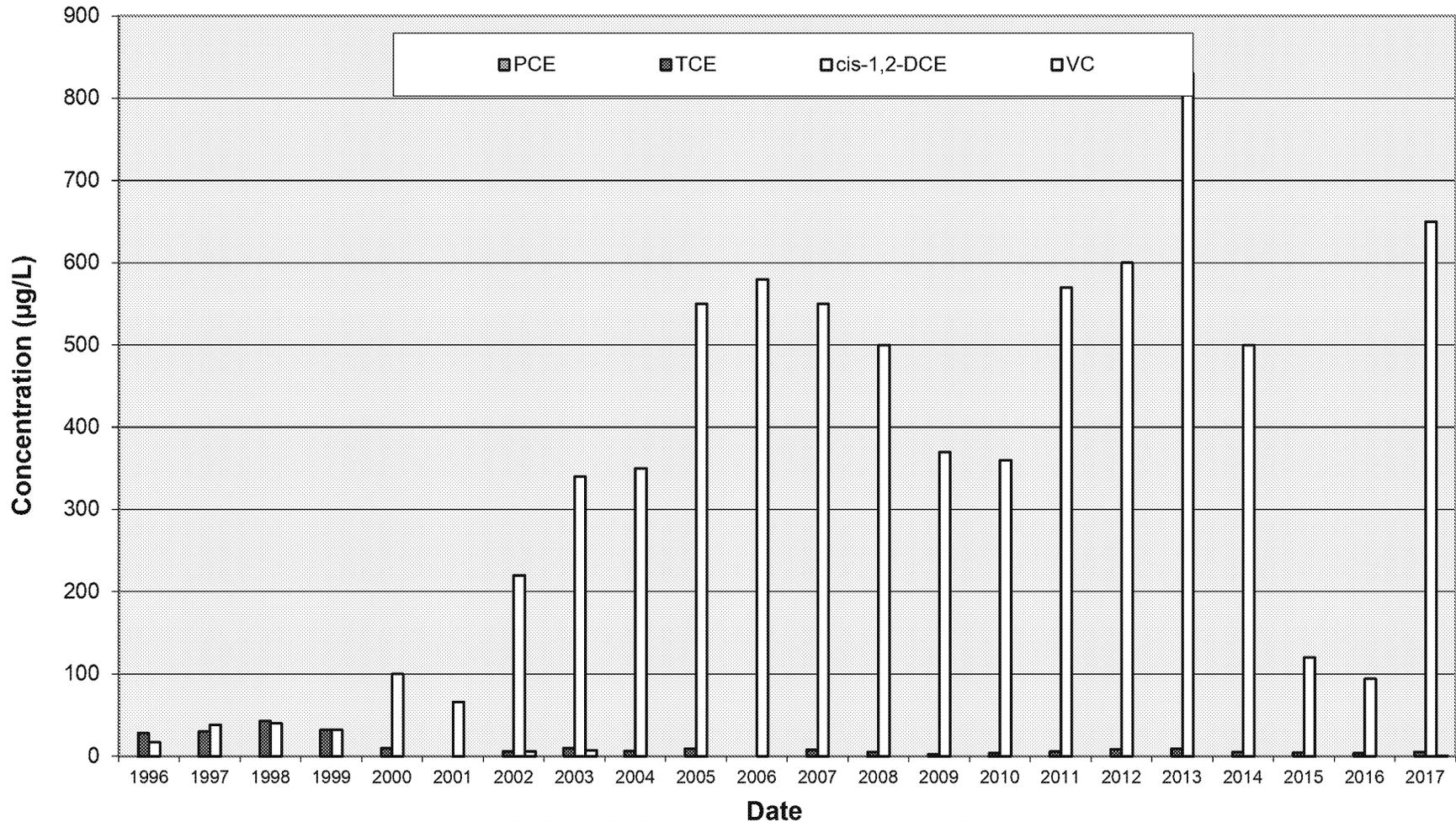
.Note: Well installed in August 2005. Enhanced anaerobic bioremediation program initiated in October 2000.

## Chlorinated Ethene Concentration Trend Plot for Well T-16A



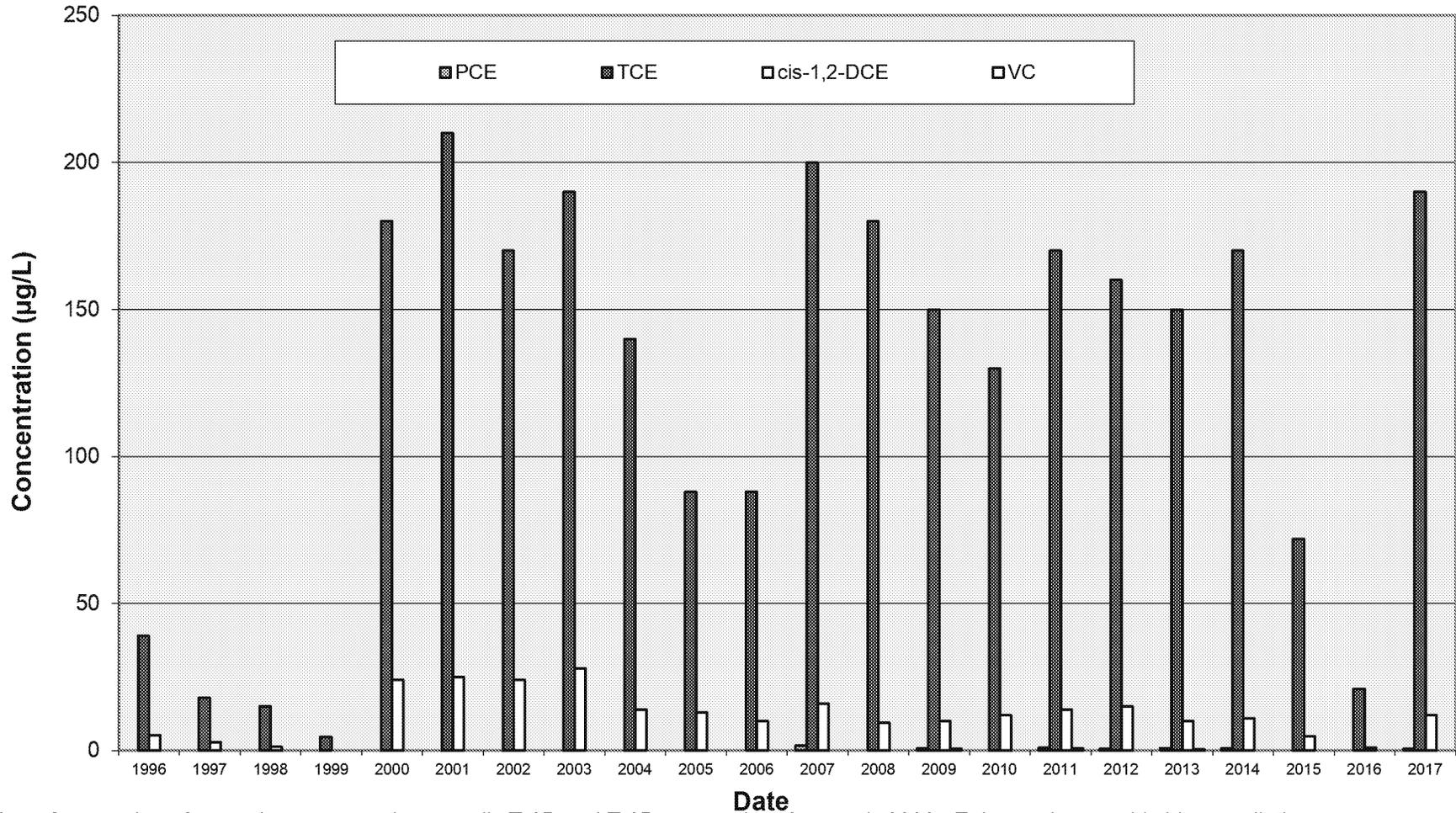
.Note: Well installed in August 2005. Enhanced anaerobic reductive dechlorination program initiated in October 2000

## Chlorinated Ethene Concentration Trend Plot for Well T-4B



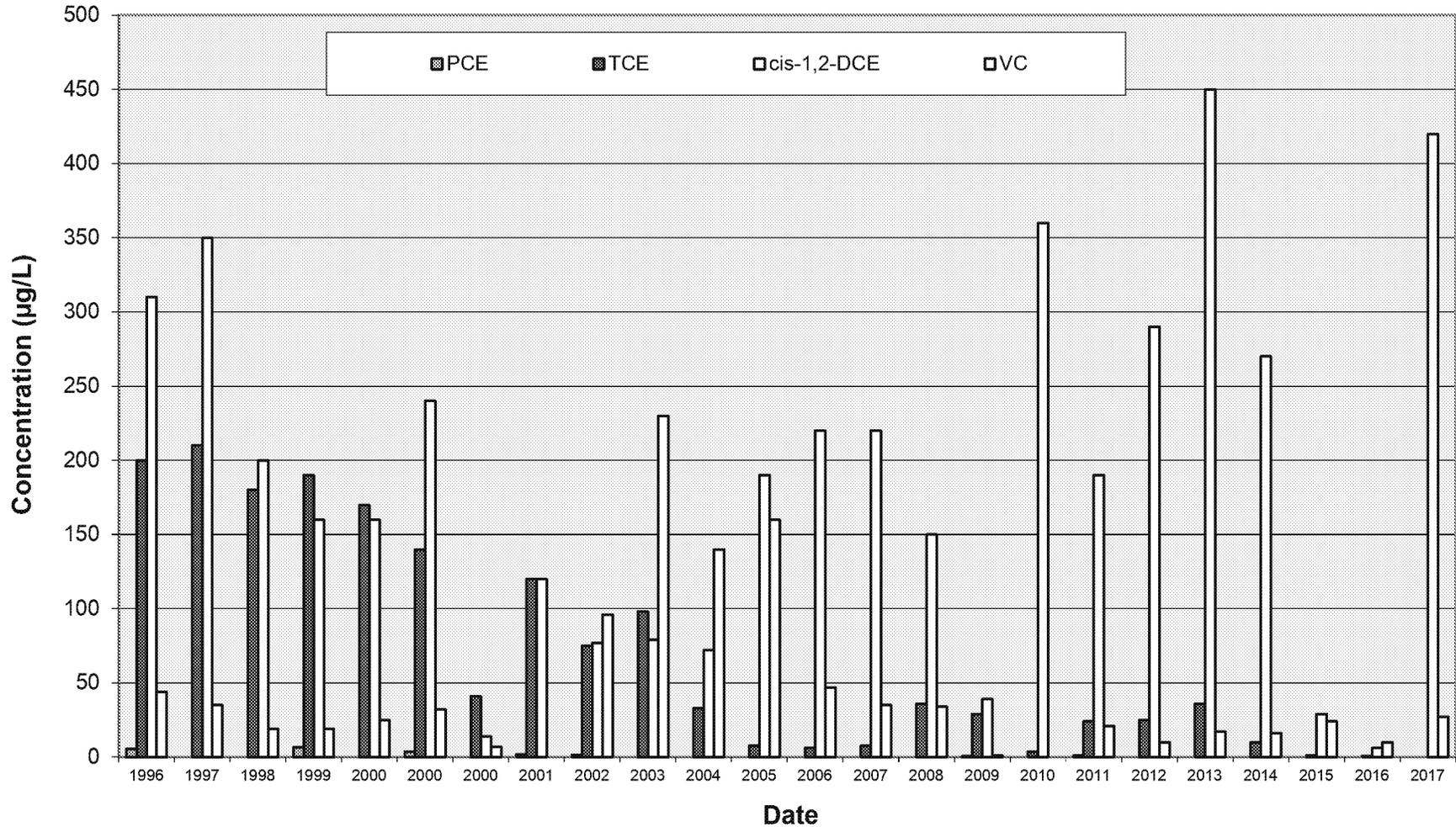
Note: Suspension of groundwater extraction at wells T-2B and T-8B occurred on August 1, 2000. Enhanced anaerobic bioremediation program initiated in October 2000

## Chlorinated Ethene Concentration Trend Plot for Well T-7B



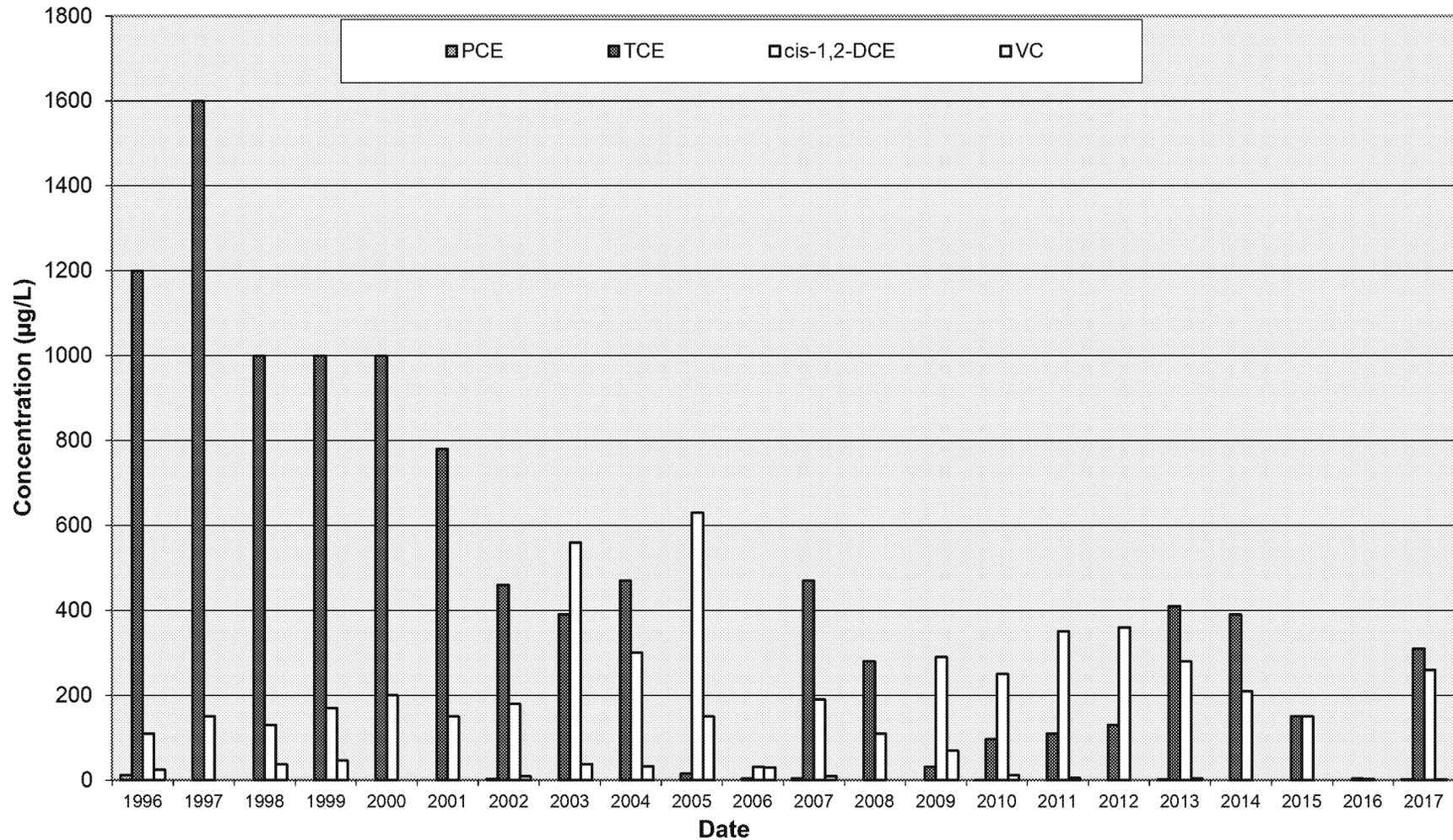
Note: Suspension of groundwater extraction at wells T-2B and T-8B occurred on August 1, 2000. Enhanced anaerobic bioremediation program initiated in October 2000

## Chlorinated Ethene Concentration Trend Plot for Well T-8B



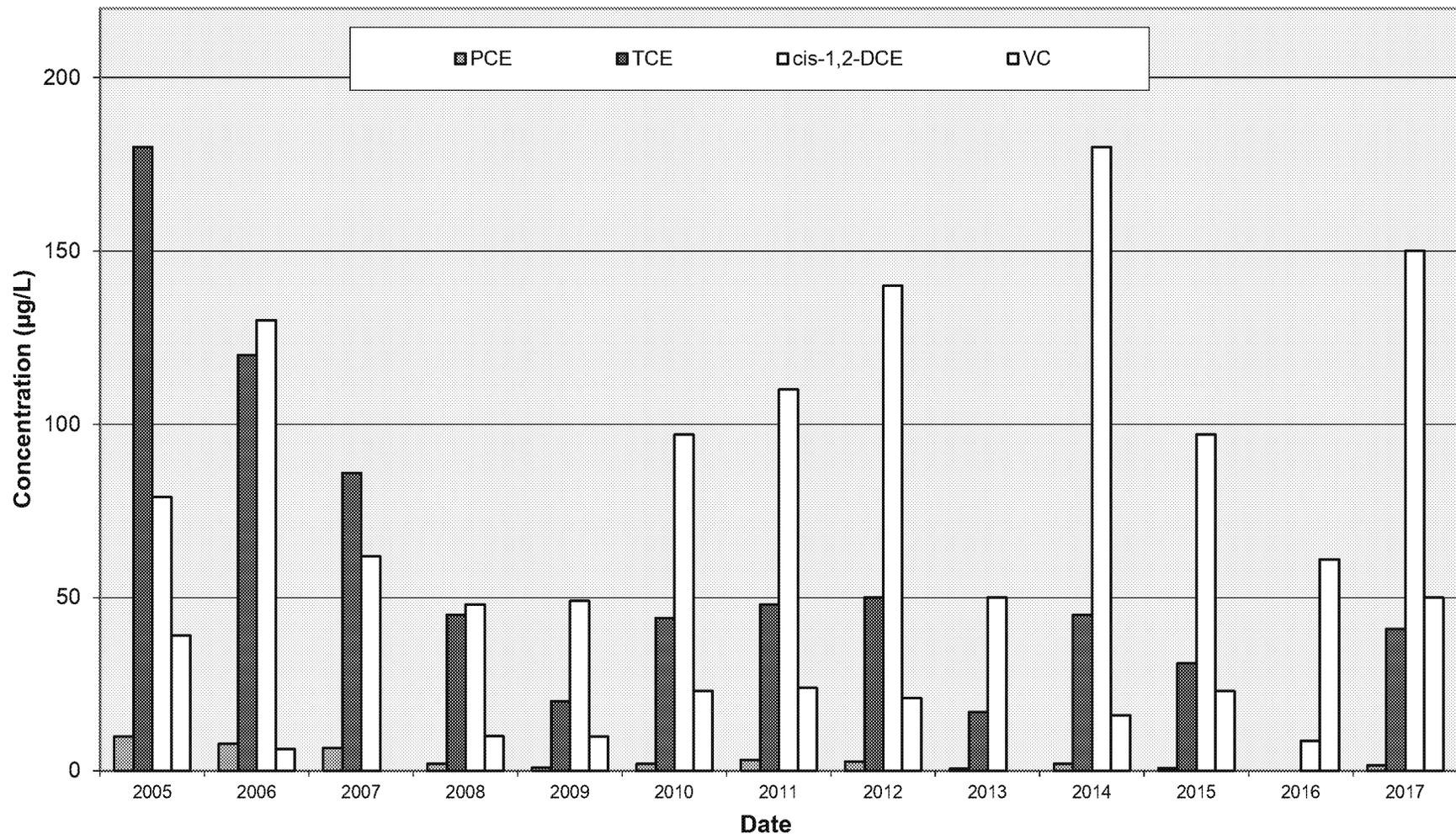
.Note: Suspension of groundwater extraction on August 1, 2000. Enhanced anaerobic bioremediation program initiated in October 2000

## Chlorinated Ethene Concentration Trend Plot for Well T-9B



.Note: Suspension of groundwater extraction occurred on April 6, 2001. Enhanced anaerobic bioremediation program initiated in October 2000

## Chlorinated Ethene Concentration Trend Plot for Well T-10B

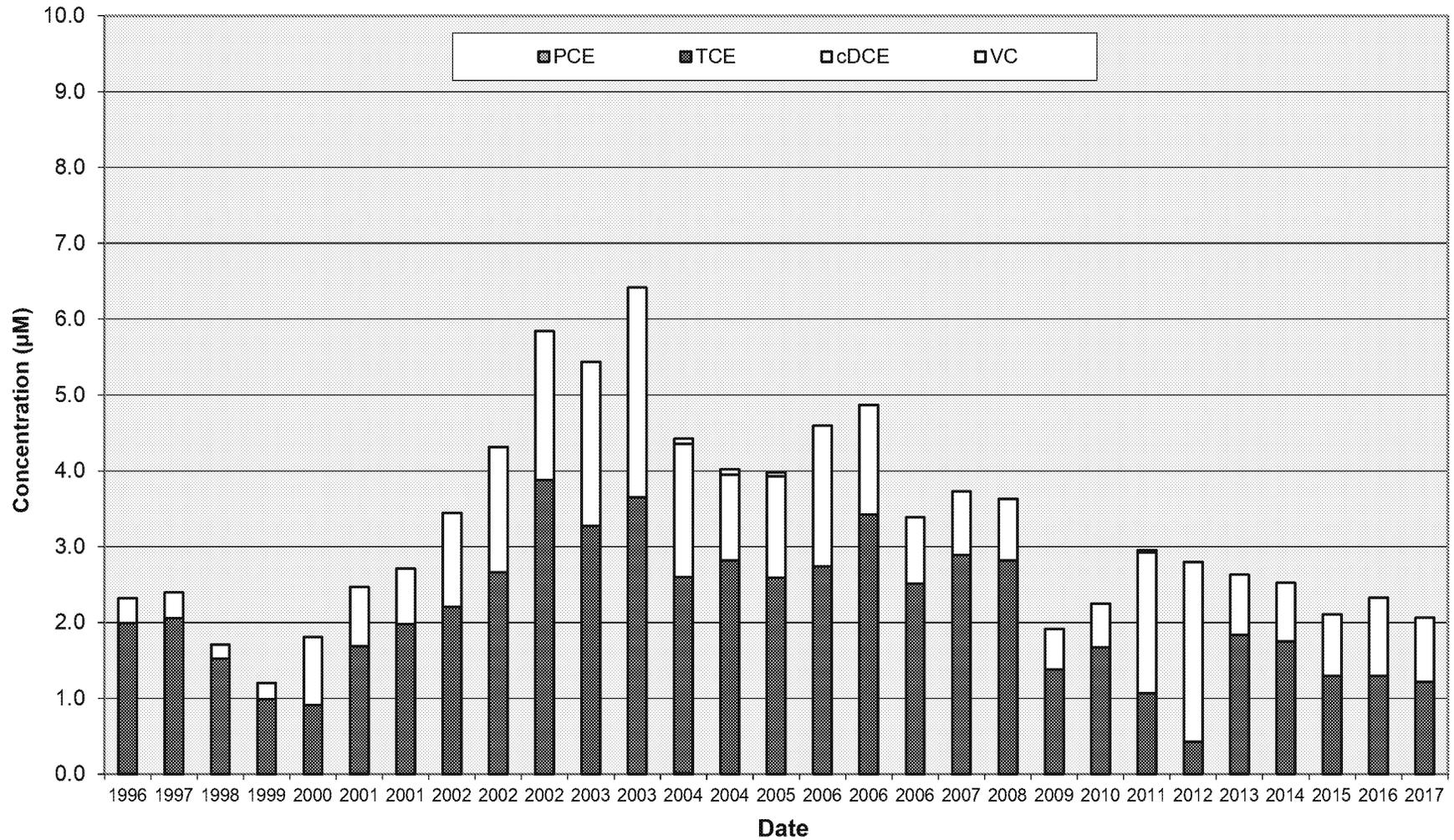


.Note: Enhanced anaerobic reductive dechlorination program initiated in October 2000

## **Appendix E**

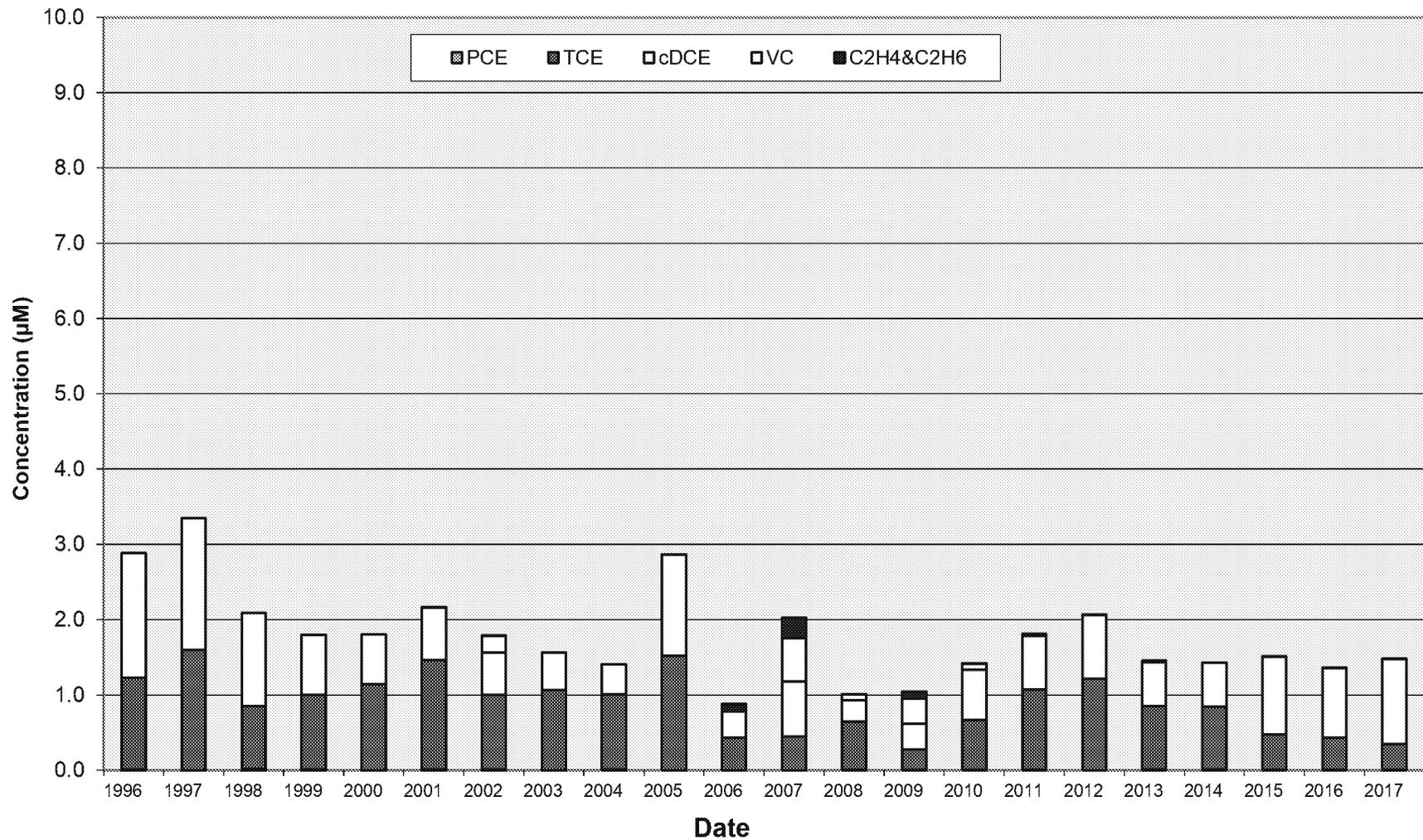
### **Chlorinated Ethene Molar Concentration Trend Plots for EAB Wells**

## Chlorinated Ethene Molar Concentration Trend Plot for Well T-7A



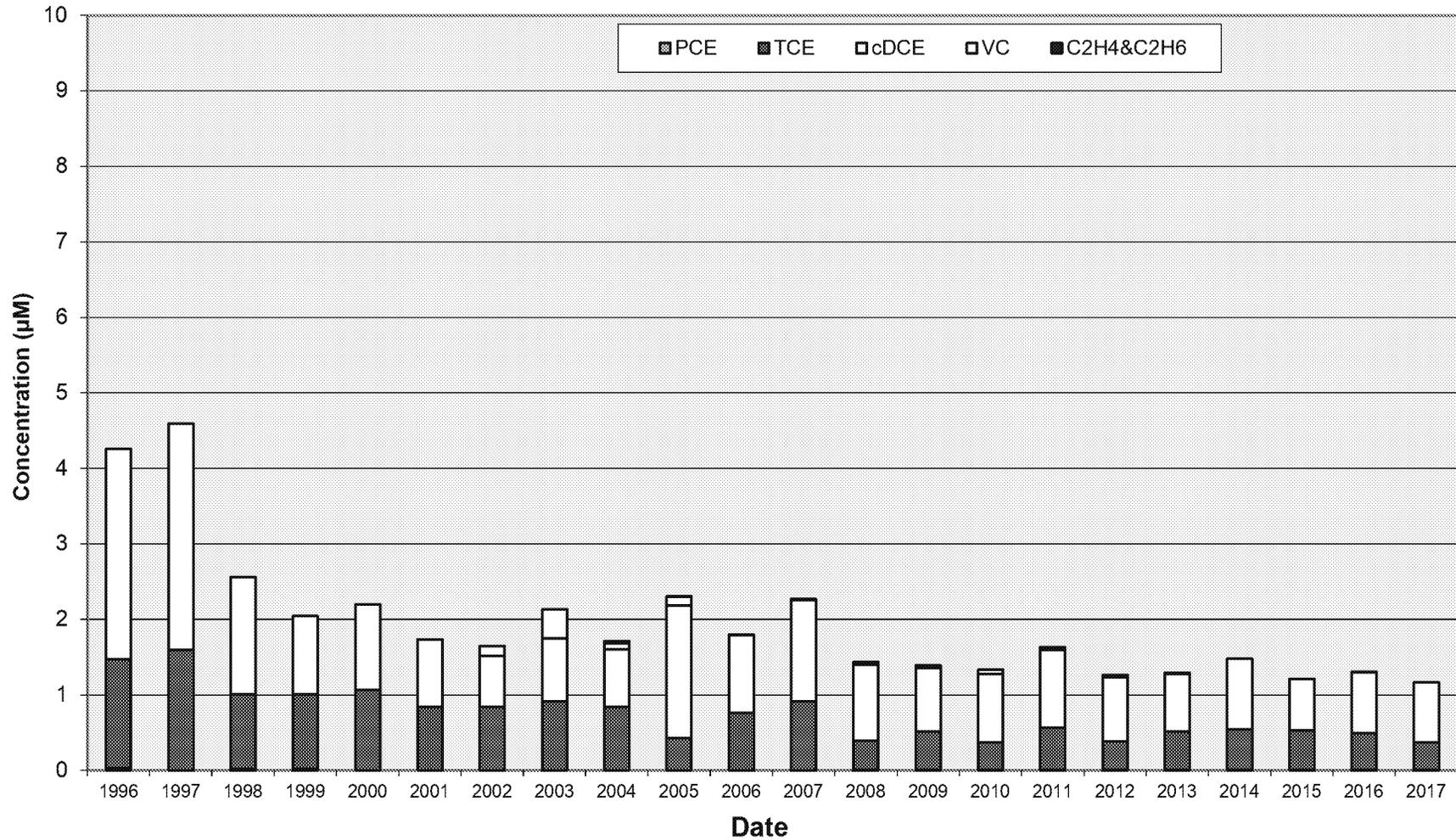
Note: Suspension of groundwater extraction at Eductor occurred on April 6, 2001. Enhanced anaerobic bioremediation program initiated in October 2000

## Chlorinated Ethene Molar Concentration Trend Plot for Well T-8A



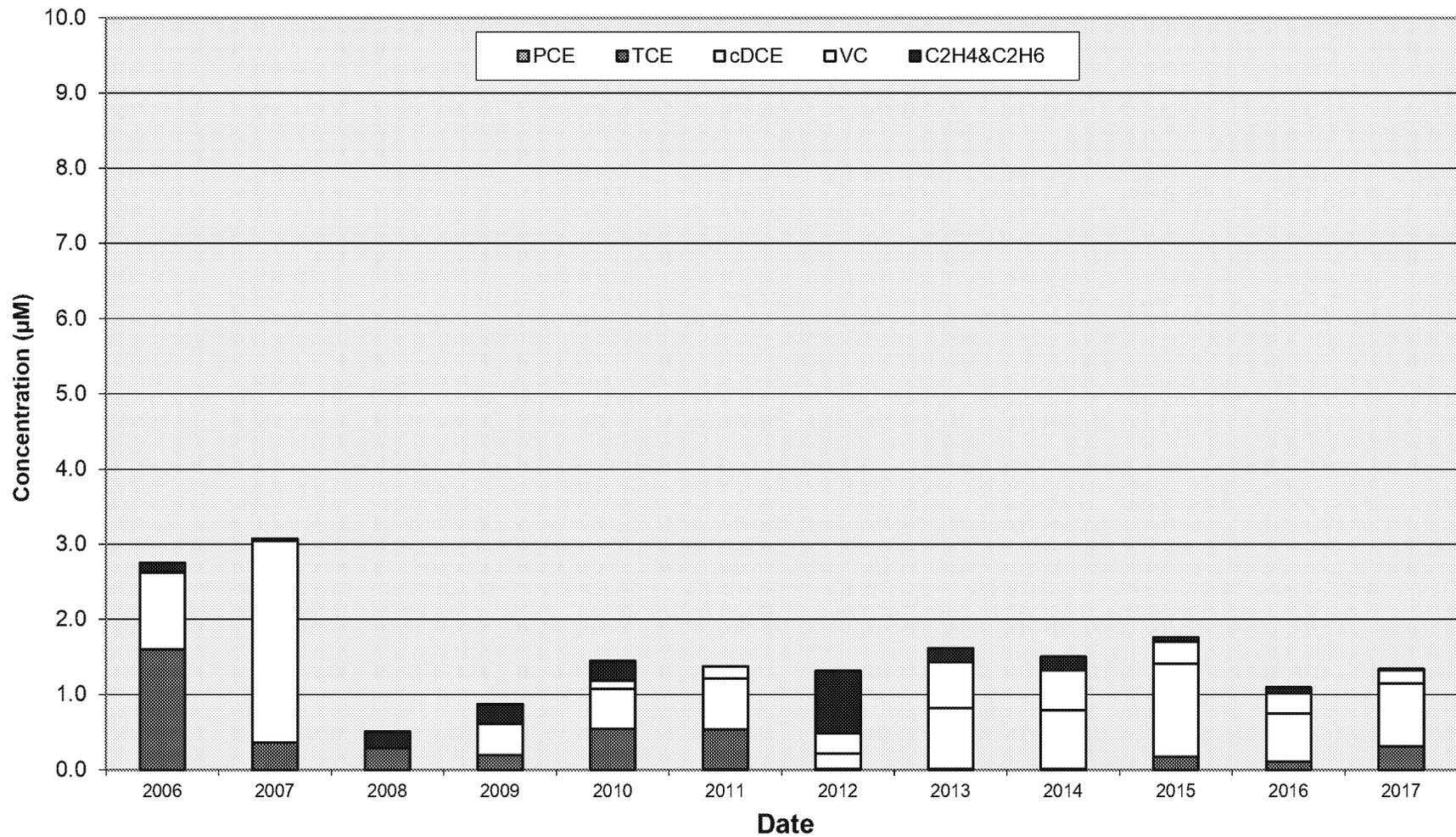
.Note: Suspension of groundwater extraction occurred on April 6, 2001. Enhanced anaerobic bioremediation program initiated in October 2000

## Chlorinated Ethene Molar Concentration Trend Plot for Well T-9A



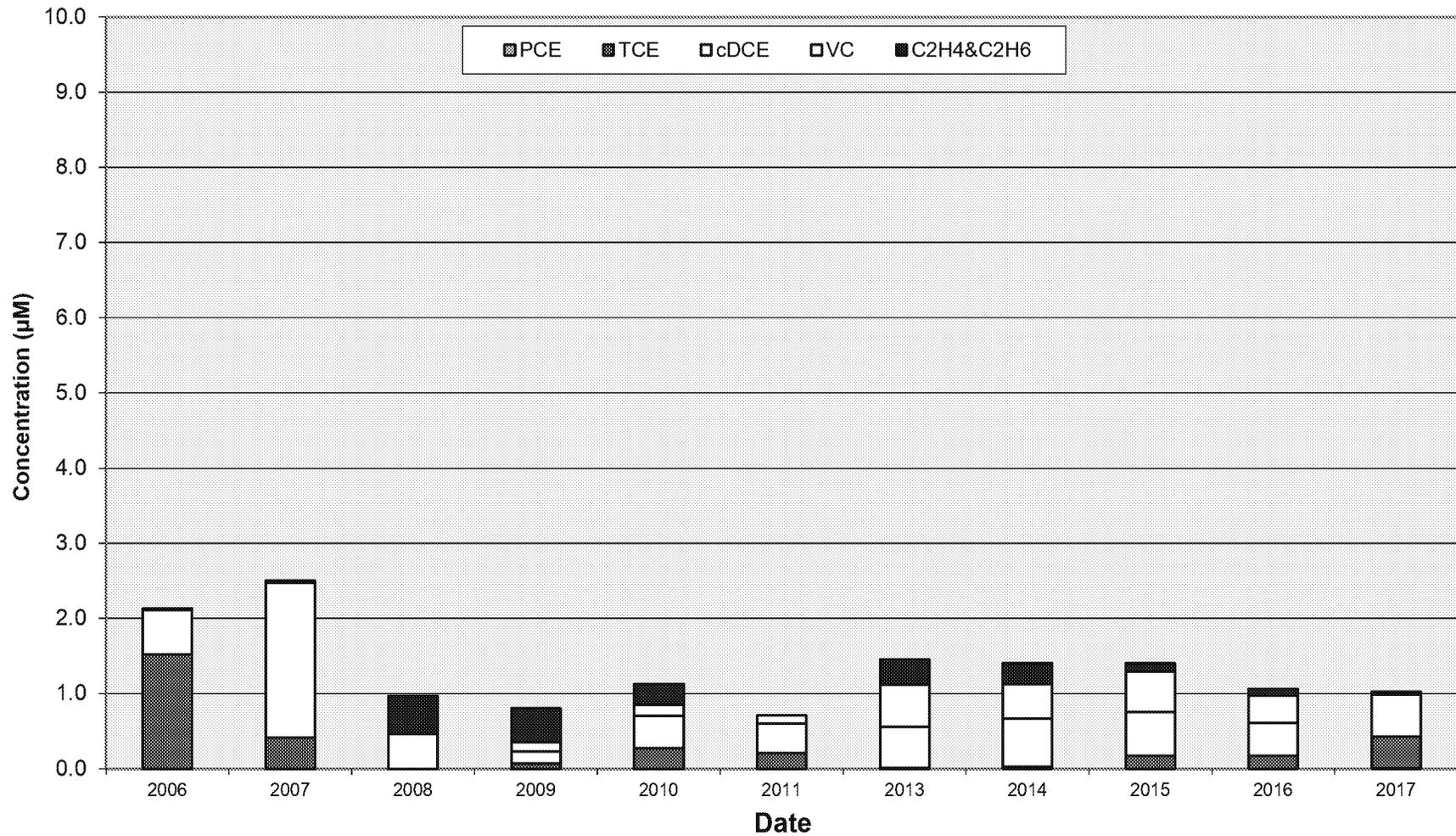
.Note: Suspension of groundwater extraction occurred on April 6, 2001. Enhanced anaerobic bioremediation program initiated in October 2000

## Chlorinated Ethene Molar Concentration Trend Plot for Well T-13A



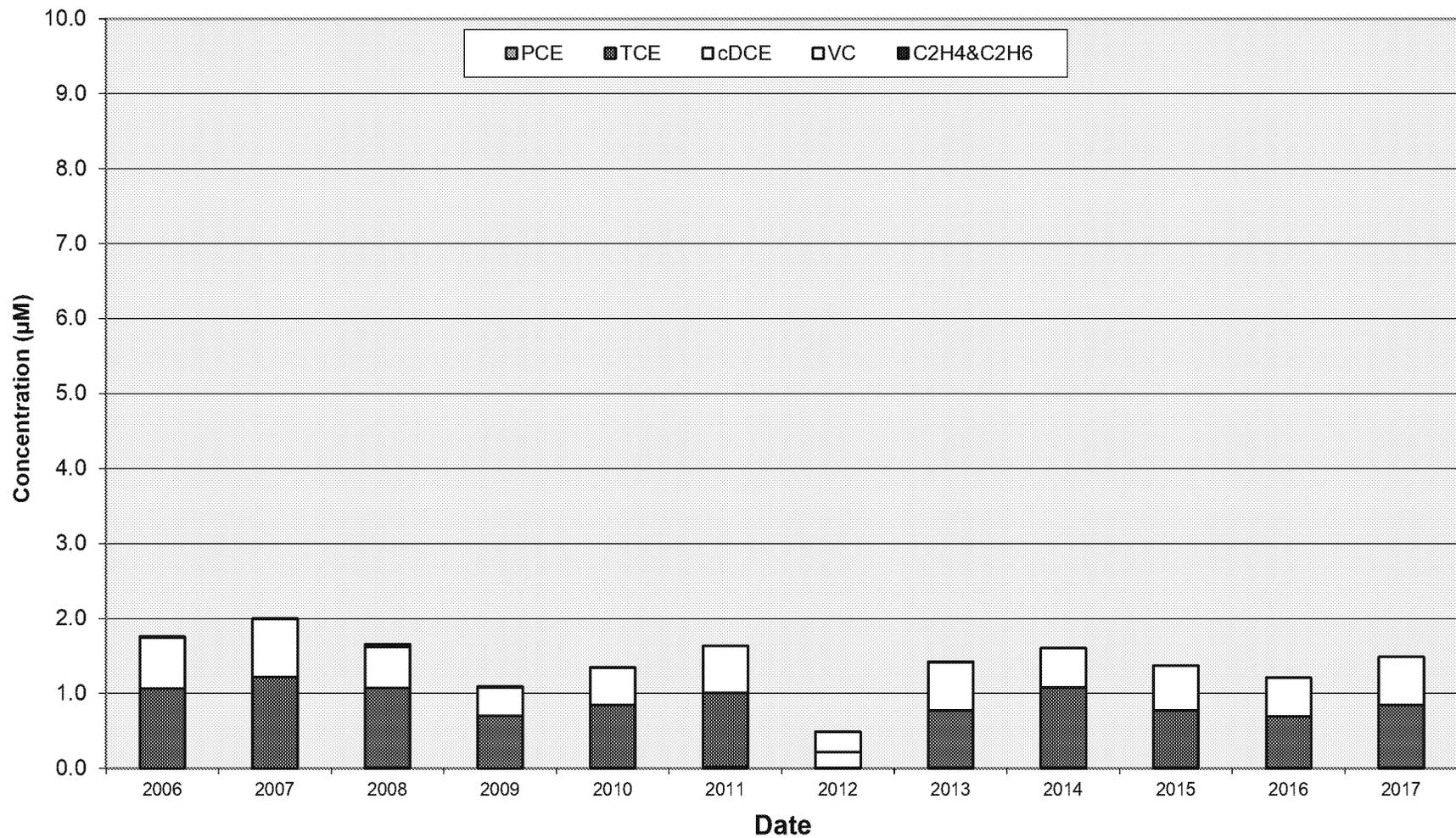
.Note: Well installed in August 2005. Enhanced anaerobic bioremediation program initiated in October 2000

## Chlorinated Ethene Molar Concentration Trend Plot for Well T-14A



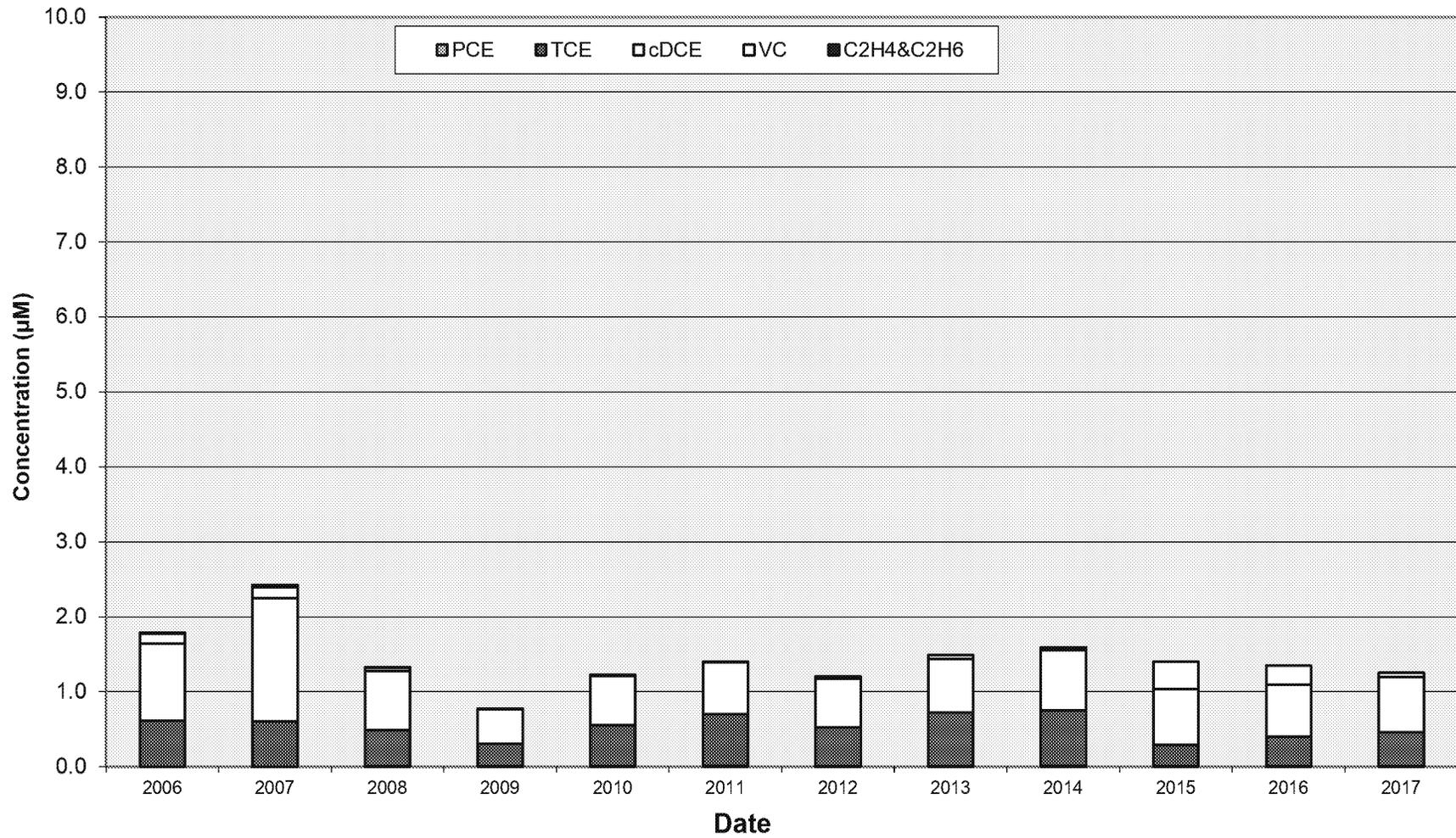
.Note: Well installed in August 2005. Enhanced anaerobic bioremediation program initiated in October 2000

## Chlorinated Ethene Molar Concentration Trend Plot for Well T-15A



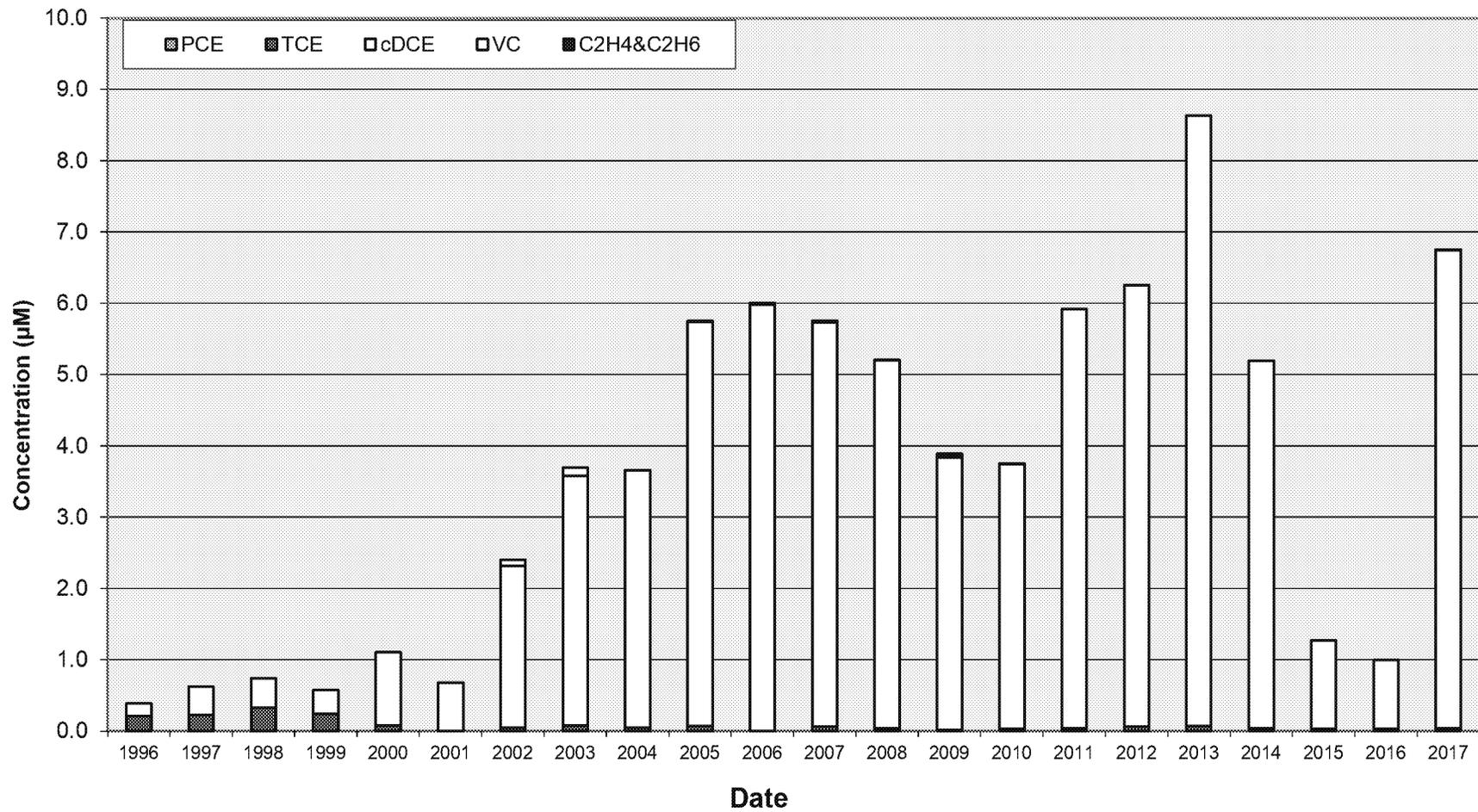
.Note: Well was installed in August 2005. Enhanced anaerobic bioremediation program initiated in October 2000

## Chlorinated Ethene Molar Concentration Trend Plot for Well T-16A



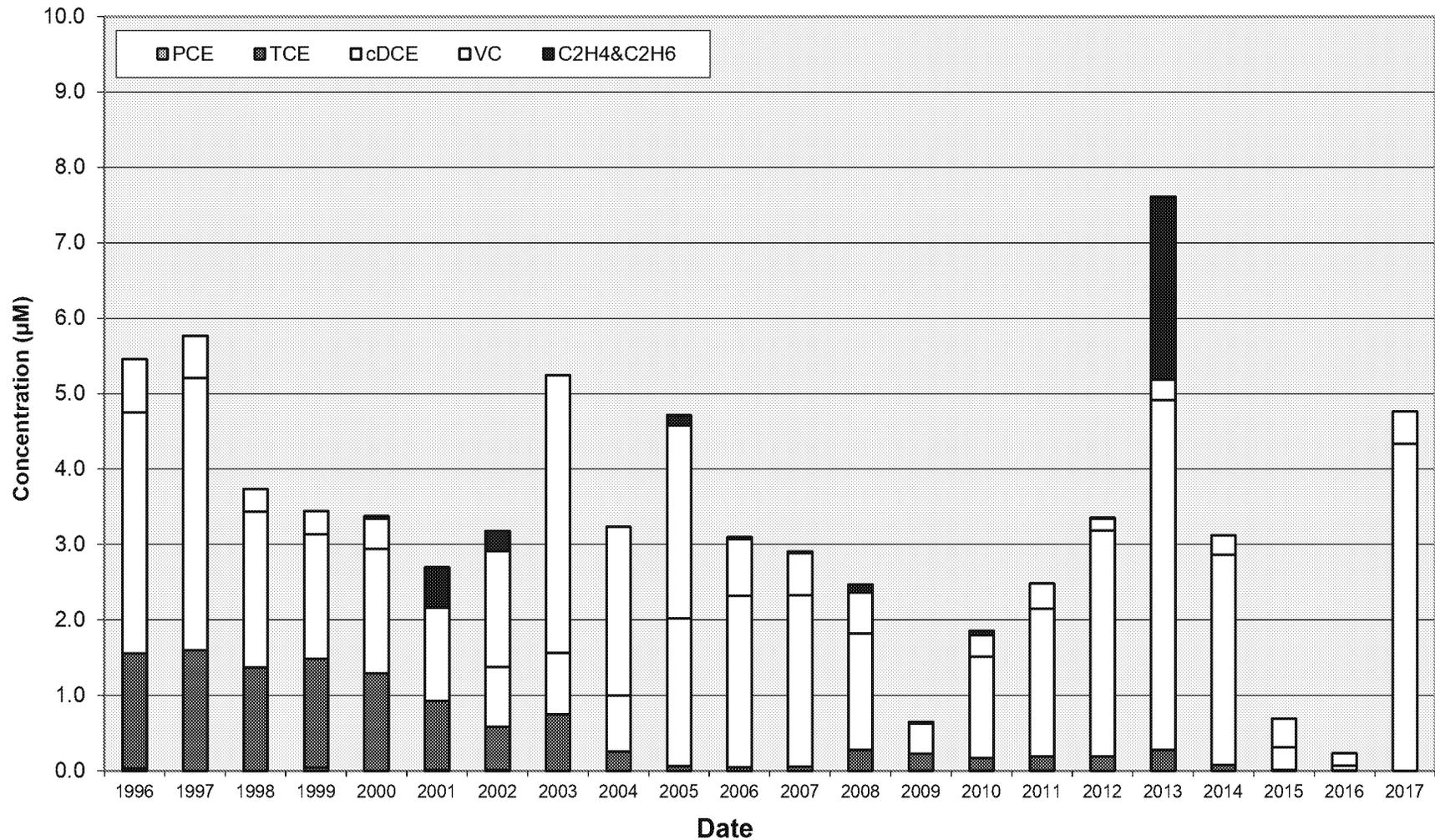
.Note: Well was installed in August 2005. Enhanced anaerobic bioremediation program initiated in October 2000

## Chlorinated Ethene Molar Concentration Trend Plot for Well T-4B



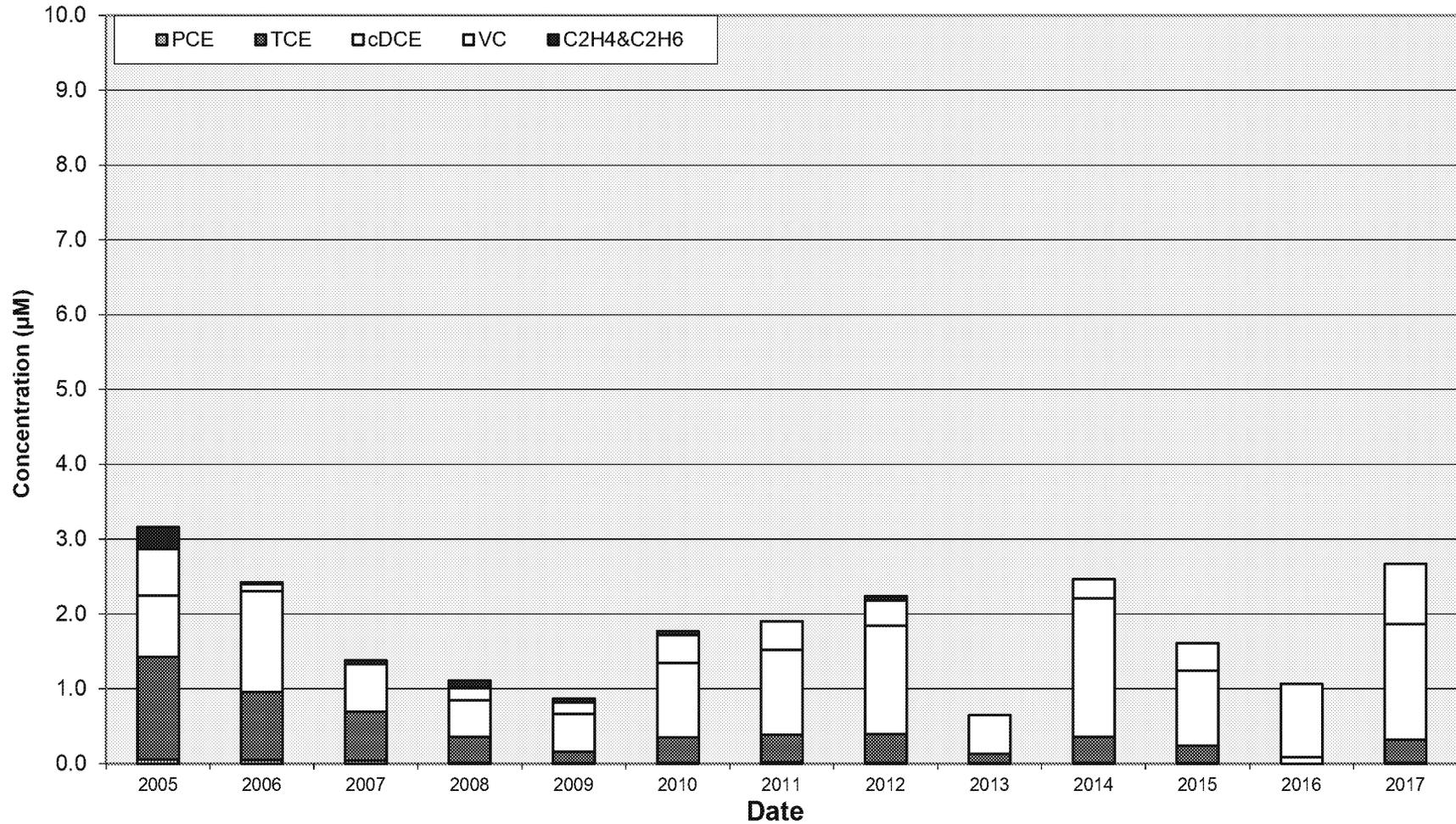
.Note: Enhanced anaerobic bioremediation initiated in October 2000

## Chlorinated Ethene Molar Concentration Trend Plot for Well T-8B



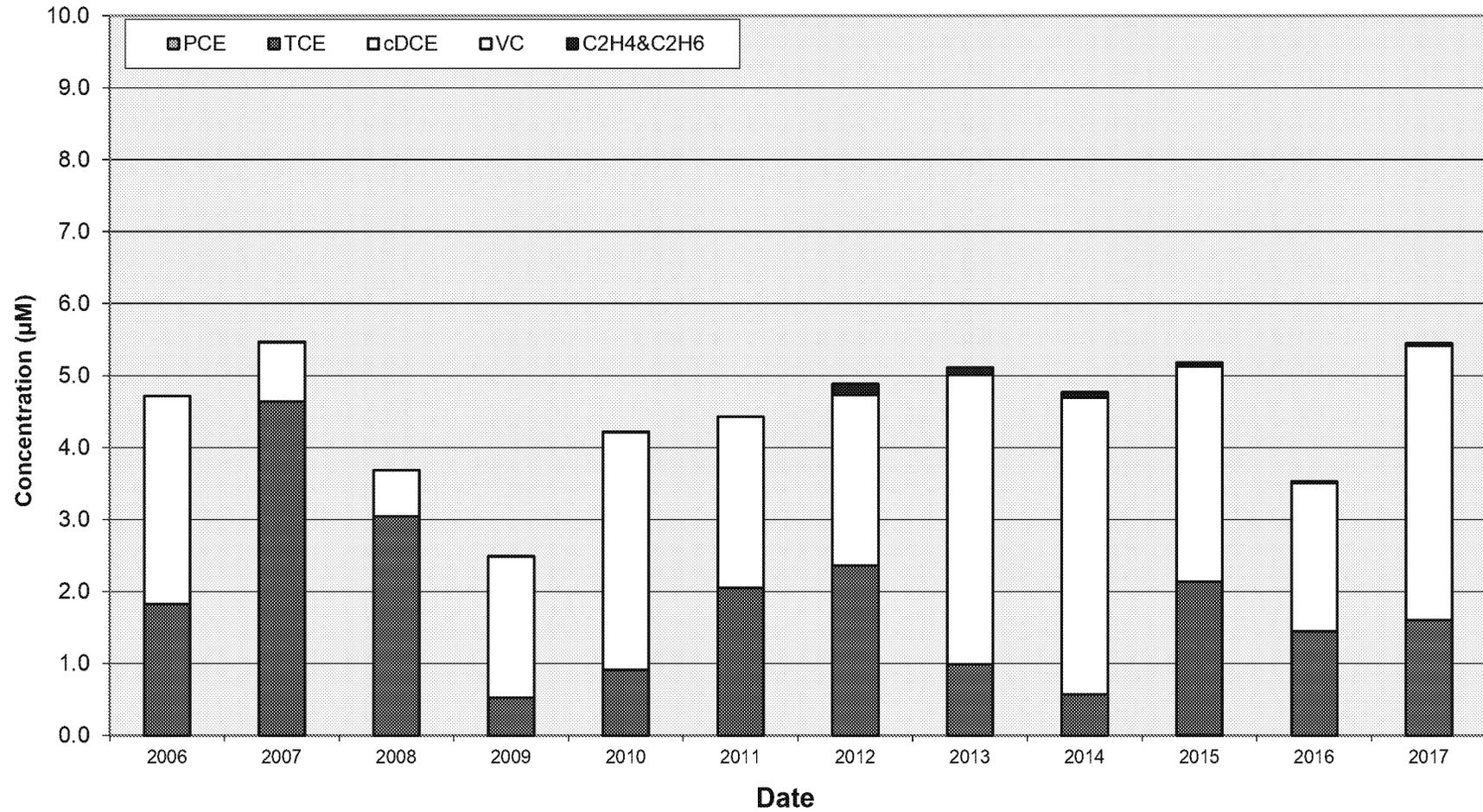
.Note: Suspension of groundwater extraction occurred on August 1, 2000. Enhanced anaerobic bioremediation program initiated in October 2000

## Chlorinated Ethene Molar Concentration Trend Plot for Well T-10B



.Note: Enhanced anaerobic bioremediation program initiated in October 2000

## Chlorinated Ethene Molar Concentration Trend Plot for Well T-17B



Note: Well installed in August 2005. Enhanced anaerobic bioremediation program initiated in October 2000.

## **Appendix F**

### **Analytical Laboratory Reports and Chain-of-Custody Forms – 2017**

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

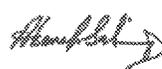
## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.  
TestAmerica Pleasanton  
1220 Quarry Lane  
Pleasanton, CA 94566  
Tel: (925)484-1919

TestAmerica Job ID: 720-82491-1  
Client Project/Site: TRW Microwave

For:  
AECOM Technical Services Inc.  
999 Town & Country Road  
1st Floor  
Orange, California 92868

Attn: Ms. Holly Holbrook



---

Authorized for release by:  
10/24/2017 5:03:04 PM

Afsaneh Salimpour, Senior Project Manager  
(925)484-1919  
afsaneh.salimpour@testamericainc.com

### LINKS

Review your project  
results through  
**Total Access**

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The  
Expert**

Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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# Definitions/Glossary

Client: AECOM Technical Services Inc.  
Project/Site: TRW Microwave

TestAmerica Job ID: 720-82491-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
*	RPD of the LCS and LCSD exceeds the control limits
*	LCS or LCSD is outside acceptance limits.
H	Sample was prepped or analyzed beyond the specified holding time
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
E	Result exceeded calibration range.
F2	MS/MSD RPD exceeds control limits

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
$\alpha$	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

TestAmerica Pleasanton

# Case Narrative

Client: AECOM Technical Services Inc.  
Project/Site: TRW Microwave

TestAmerica Job ID: 720-82491-1

Job ID: 720-82491-1

Laboratory: TestAmerica Pleasanton

## Narrative

### Job Narrative 720-82491-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 10/10/2017 5:00 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.3° C.

#### GC/MS VOA

Method(s) 8260B: The continuing calibration verification (CCV) associated with batch 720-232614 recovered above the upper control limit for 1,1,2-Trichloroethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: J6038-T23B-101017 (720-82491-3), J6038-T9C-101017 (720-82491-4), J6038-T9B-101017 (720-82491-5), J6038-T9A-101017 (720-82491-6), J6038-T16A-101017 (720-82491-7), J6038-T10B-101017 (720-82491-8), J6038-T18B-101017 (720-82491-9), J6038-T7A-101017-1 (720-82491-11) and J6038-T7A-101017-2 (720-82491-12).

Method(s) 8260B: The following volatile samples was analyzed with significant headspace in the sample Container(s): J6038-T9C-101017 (720-82491-4), J6038-T9B-101017 (720-82491-5), J6038-T9A-101017 (720-82491-6), J6038-T10B-101017 (720-82491-8) and J6038-T18B-101017 (720-82491-9). Significant headspace is defined as a bubble greater than 6 mm in diameter.

Method(s) 8260B: The following volatile sample was analyzed with significant headspace in the sample Container(s): J6038-T20B-101017 (720-82491-10). Significant headspace is defined as a bubble greater than 6 mm in diameter.

Method(s) 8260B: Reanalysis of the following sample was performed outside of the analytical holding time due to Trichloroethene concentration recovered exceeded calibration range: J6038-T11C-100917 (720-82491-2).

Method(s) 8260B: The laboratory control sample (LCS) for analytical batch 720-232639 recovered outside control limits for the following analytes: Trichlorofluoromethane. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260B: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for batch analytical batch 720-232639 recovered outside control limits for the following analytes: 1,1,2,2-Tetrachloroethane, Chloroethane and Methylene Chloride.

Method(s) 8260B: The following volatile sample was analyzed with significant headspace in the sample Container(s): J6038-T20B-101017 (720-82491-10). Significant headspace is defined as a bubble greater than 6 mm in diameter.

Method(s) 8260B: The following sample has a result above the calibration range for Trichloroethene. Reanalysis past hold time at a dilution confirmed the result and the original run is reported as secondary.

J6038-T11C-100917 (720-82491-2)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

# Detection Summary

Client: AECOM Technical Services Inc.  
Project/Site: TRW Microwave

TestAmerica Job ID: 720-82491-1

Client Sample ID: TRIPBLANK-J6038-100917

Lab Sample ID: 720-82491-1

No Detections.

Client Sample ID: J6038-T11C-100917

Lab Sample ID: 720-82491-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethene	2.2		0.50		ug/L	1		8260B	Total/NA
Vinyl chloride	2.8		0.50		ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	0.84		0.50		ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	26		0.50		ug/L	1		8260B	Total/NA
Trichloroethene	310	H	5.0		ug/L	10		8260B	Total/NA
1,1,2-Trichloro-1,2,2-trifluoroethane	10		0.50		ug/L	1		8260B	Total/NA

Client Sample ID: J6038-T23B-101017

Lab Sample ID: 720-82491-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethene	0.77		0.50		ug/L	1		8260B	Total/NA
Vinyl chloride	0.64		0.50		ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	2.7		0.50		ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	100		0.50		ug/L	1		8260B	Total/NA
Trichloroethene	86		0.50		ug/L	1		8260B	Total/NA
Tetrachloroethene	1.3		0.50		ug/L	1		8260B	Total/NA
1,2-Dichlorobenzene	2.6		0.50		ug/L	1		8260B	Total/NA

Client Sample ID: J6038-T9C-101017

Lab Sample ID: 720-82491-4

No Detections.

Client Sample ID: J6038-T9B-101017

Lab Sample ID: 720-82491-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethene	2.3		1.0		ug/L	2		8260B	Total/NA
Vinyl chloride	2.1		1.0		ug/L	2		8260B	Total/NA
trans-1,2-Dichloroethene	3.5		1.0		ug/L	2		8260B	Total/NA
cis-1,2-Dichloroethene	260		1.0		ug/L	2		8260B	Total/NA
Trichloroethene	310		1.0		ug/L	2		8260B	Total/NA
Tetrachloroethene	1.7		1.0		ug/L	2		8260B	Total/NA
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0		1.0		ug/L	2		8260B	Total/NA

Client Sample ID: J6038-T9A-101017

Lab Sample ID: 720-82491-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
trans-1,2-Dichloroethene	2.5		0.50		ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	77		0.50		ug/L	1		8260B	Total/NA
Trichloroethene	48		0.50		ug/L	1		8260B	Total/NA
Tetrachloroethene	0.76		0.50		ug/L	1		8260B	Total/NA
1,2-Dichlorobenzene	2.3		0.50		ug/L	1		8260B	Total/NA

Client Sample ID: J6038-T16A-101017

Lab Sample ID: 720-82491-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethene	0.51		0.50		ug/L	1		8260B	Total/NA
Vinyl chloride	3.4		0.50		ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Pleasanton

# Detection Summary

Client: AECOM Technical Services Inc.  
Project/Site: TRW Microwave

TestAmerica Job ID: 720-82491-1

Client Sample ID: J6038-T16A-101017 (Continued)

Lab Sample ID: 720-82491-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
trans-1,2-Dichloroethene	2.5		0.50		ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	72		0.50		ug/L	1		8260B	Total/NA
Trichloroethene	59		0.50		ug/L	1		8260B	Total/NA
Tetrachloroethene	1.0		0.50		ug/L	1		8260B	Total/NA
1,2-Dichlorobenzene	1.2		0.50		ug/L	1		8260B	Total/NA

Client Sample ID: J6038-T10B-101017

Lab Sample ID: 720-82491-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethene	0.94		0.50		ug/L	1		8260B	Total/NA
1,1-Dichloroethane	0.65		0.50		ug/L	1		8260B	Total/NA
Vinyl chloride	50		0.50		ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	3.5		0.50		ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	150		0.50		ug/L	1		8260B	Total/NA
Trichloroethene	41		0.50		ug/L	1		8260B	Total/NA
Tetrachloroethene	1.6		0.50		ug/L	1		8260B	Total/NA
1,2-Dichlorobenzene	4.2		0.50		ug/L	1		8260B	Total/NA

Client Sample ID: J6038-T18B-101017

Lab Sample ID: 720-82491-9

No Detections.

Client Sample ID: J6038-T20B-101017

Lab Sample ID: 720-82491-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	280		5.0		ug/L	10		8260B	Total/NA
Trichloroethene	230		5.0		ug/L	10		8260B	Total/NA

Client Sample ID: J6038-T7A-101017-1

Lab Sample ID: 720-82491-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	82		2.5		ug/L	5		8260B	Total/NA
Trichloroethene	160		2.5		ug/L	5		8260B	Total/NA

Client Sample ID: J6038-T7A-101017-2

Lab Sample ID: 720-82491-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	84		2.5		ug/L	5		8260B	Total/NA
Trichloroethene	160		2.5		ug/L	5		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Pleasanton

# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: TRW Microwave

TestAmerica Job ID: 720-82491-1

Client Sample ID: TRIPLEBLANK-J6038-100917

Lab Sample ID: 720-82491-1

Date Collected: 10/09/17 07:00

Matrix: Water

Date Received: 10/10/17 17:00

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.50		ug/L			10/23/17 11:54	1
1,1-Dichloroethane	ND		0.50		ug/L			10/23/17 11:54	1
Dichlorodifluoromethane	ND		0.50		ug/L			10/23/17 11:54	1
Vinyl chloride	ND		0.50		ug/L			10/23/17 11:54	1
Chloroethane	ND		1.0		ug/L			10/23/17 11:54	1
Trichlorofluoromethane	ND		1.0		ug/L			10/23/17 11:54	1
Methylene Chloride	ND		5.0		ug/L			10/23/17 11:54	1
trans-1,2-Dichloroethene	ND		0.50		ug/L			10/23/17 11:54	1
cis-1,2-Dichloroethene	ND		0.50		ug/L			10/23/17 11:54	1
Chloroform	ND		1.0		ug/L			10/23/17 11:54	1
1,1,1-Trichloroethane	ND		0.50		ug/L			10/23/17 11:54	1
Carbon tetrachloride	ND		0.50		ug/L			10/23/17 11:54	1
1,2-Dichloroethane	ND		0.50		ug/L			10/23/17 11:54	1
Trichloroethene	ND		0.50		ug/L			10/23/17 11:54	1
1,2-Dichloropropane	ND		0.50		ug/L			10/23/17 11:54	1
Dichlorobromomethane	ND		0.50		ug/L			10/23/17 11:54	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			10/23/17 11:54	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			10/23/17 11:54	1
1,1,2-Trichloroethane	ND		0.50		ug/L			10/23/17 11:54	1
Tetrachloroethene	ND		0.50		ug/L			10/23/17 11:54	1
Chlorodibromomethane	ND		0.50		ug/L			10/23/17 11:54	1
Chlorobenzene	ND		0.50		ug/L			10/23/17 11:54	1
Bromoform	ND		1.0		ug/L			10/23/17 11:54	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			10/23/17 11:54	1
1,3-Dichlorobenzene	ND		0.50		ug/L			10/23/17 11:54	1
1,4-Dichlorobenzene	ND		0.50		ug/L			10/23/17 11:54	1
1,2-Dichlorobenzene	ND		0.50		ug/L			10/23/17 11:54	1
Chloromethane	ND		1.0		ug/L			10/23/17 11:54	1
Bromomethane	ND		1.0		ug/L			10/23/17 11:54	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50		ug/L			10/23/17 11:54	1
EDB	ND		0.50		ug/L			10/23/17 11:54	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			10/23/17 11:54	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Toluene-d8 (Surr)	99		70 - 130					10/23/17 11:54	1
4-Bromofluorobenzene	91		67 - 130					10/23/17 11:54	1
1,2-Dichloroethane-d4 (Surr)	94		72 - 130					10/23/17 11:54	1

TestAmerica Pleasanton

# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: TRW Microwave

TestAmerica Job ID: 720-82491-1

Client Sample ID: J6038-T11C-100917

Lab Sample ID: 720-82491-2

Date Collected: 10/09/17 14:54

Matrix: Water

Date Received: 10/10/17 17:00

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	2.2		0.50		ug/L			10/23/17 12:24	1
1,1-Dichloroethane	ND		0.50		ug/L			10/23/17 12:24	1
Dichlorodifluoromethane	ND		0.50		ug/L			10/23/17 12:24	1
Vinyl chloride	2.8		0.50		ug/L			10/23/17 12:24	1
Chloroethane	ND		1.0		ug/L			10/23/17 12:24	1
Trichlorofluoromethane	ND		1.0		ug/L			10/23/17 12:24	1
Methylene Chloride	ND		5.0		ug/L			10/23/17 12:24	1
trans-1,2-Dichloroethene	0.84		0.50		ug/L			10/23/17 12:24	1
cis-1,2-Dichloroethene	26		0.50		ug/L			10/23/17 12:24	1
Chloroform	ND		1.0		ug/L			10/23/17 12:24	1
1,1,1-Trichloroethane	ND		0.50		ug/L			10/23/17 12:24	1
Carbon tetrachloride	ND		0.50		ug/L			10/23/17 12:24	1
1,2-Dichloroethane	ND		0.50		ug/L			10/23/17 12:24	1
Trichloroethene	310	H	5.0		ug/L			10/24/17 13:02	10
1,2-Dichloropropane	ND		0.50		ug/L			10/23/17 12:24	1
Dichlorobromomethane	ND		0.50		ug/L			10/23/17 12:24	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			10/23/17 12:24	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			10/23/17 12:24	1
1,1,2-Trichloroethane	ND		0.50		ug/L			10/23/17 12:24	1
Tetrachloroethene	ND		0.50		ug/L			10/23/17 12:24	1
Chlorodibromomethane	ND		0.50		ug/L			10/23/17 12:24	1
Chlorobenzene	ND		0.50		ug/L			10/23/17 12:24	1
Bromoform	ND		1.0		ug/L			10/23/17 12:24	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			10/23/17 12:24	1
1,3-Dichlorobenzene	ND		0.50		ug/L			10/23/17 12:24	1
1,4-Dichlorobenzene	ND		0.50		ug/L			10/23/17 12:24	1
1,2-Dichlorobenzene	ND		0.50		ug/L			10/23/17 12:24	1
Chloromethane	ND		1.0		ug/L			10/23/17 12:24	1
Bromomethane	ND		1.0		ug/L			10/23/17 12:24	1
1,1,2-Trichloro-1,2,2-trifluoroethane	10		0.50		ug/L			10/23/17 12:24	1
EDB	ND		0.50		ug/L			10/23/17 12:24	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			10/23/17 12:24	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Toluene-d8 (Surr)	99		70 - 130					10/23/17 12:24	1
Toluene-d8 (Surr)	93		70 - 130					10/24/17 13:02	10
4-Bromofluorobenzene	92		67 - 130					10/23/17 12:24	1
4-Bromofluorobenzene	78		67 - 130					10/24/17 13:02	10
1,2-Dichloroethane-d4 (Surr)	98		72 - 130					10/23/17 12:24	1
1,2-Dichloroethane-d4 (Surr)	93		72 - 130					10/24/17 13:02	10

TestAmerica Pleasanton

# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: TRW Microwave

TestAmerica Job ID: 720-82491-1

Client Sample ID: J6038-T23B-101017

Lab Sample ID: 720-82491-3

Date Collected: 10/10/17 07:35

Matrix: Water

Date Received: 10/10/17 17:00

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>1,1-Dichloroethene</b>	<b>0.77</b>		0.50		ug/L			10/24/17 05:14	1
1,1-Dichloroethane	ND		0.50		ug/L			10/24/17 05:14	1
Dichlorodifluoromethane	ND		0.50		ug/L			10/24/17 05:14	1
<b>Vinyl chloride</b>	<b>0.64</b>		0.50		ug/L			10/24/17 05:14	1
Chloroethane	ND		1.0		ug/L			10/24/17 05:14	1
Trichlorofluoromethane	ND		1.0		ug/L			10/24/17 05:14	1
Methylene Chloride	ND		5.0		ug/L			10/24/17 05:14	1
<b>trans-1,2-Dichloroethene</b>	<b>2.7</b>		0.50		ug/L			10/24/17 05:14	1
<b>cis-1,2-Dichloroethene</b>	<b>100</b>		0.50		ug/L			10/24/17 05:14	1
Chloroform	ND		1.0		ug/L			10/24/17 05:14	1
1,1,1-Trichloroethane	ND		0.50		ug/L			10/24/17 05:14	1
Carbon tetrachloride	ND		0.50		ug/L			10/24/17 05:14	1
1,2-Dichloroethane	ND		0.50		ug/L			10/24/17 05:14	1
<b>Trichloroethene</b>	<b>86</b>		0.50		ug/L			10/24/17 05:14	1
1,2-Dichloropropane	ND		0.50		ug/L			10/24/17 05:14	1
Dichlorobromomethane	ND		0.50		ug/L			10/24/17 05:14	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			10/24/17 05:14	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			10/24/17 05:14	1
1,1,2-Trichloroethane	ND		0.50		ug/L			10/24/17 05:14	1
<b>Tetrachloroethene</b>	<b>1.3</b>		0.50		ug/L			10/24/17 05:14	1
Chlorodibromomethane	ND		0.50		ug/L			10/24/17 05:14	1
Chlorobenzene	ND		0.50		ug/L			10/24/17 05:14	1
Bromoform	ND		1.0		ug/L			10/24/17 05:14	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			10/24/17 05:14	1
1,3-Dichlorobenzene	ND		0.50		ug/L			10/24/17 05:14	1
1,4-Dichlorobenzene	ND		0.50		ug/L			10/24/17 05:14	1
<b>1,2-Dichlorobenzene</b>	<b>2.6</b>		0.50		ug/L			10/24/17 05:14	1
Chloromethane	ND		1.0		ug/L			10/24/17 05:14	1
Bromomethane	ND		1.0		ug/L			10/24/17 05:14	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50		ug/L			10/24/17 05:14	1
EDB	ND		0.50		ug/L			10/24/17 05:14	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			10/24/17 05:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>Toluene-d8 (Surr)</i>	97		70 - 130		10/24/17 05:14	1
<i>4-Bromofluorobenzene</i>	84		67 - 130		10/24/17 05:14	1
<i>1,2-Dichloroethane-d4 (Surr)</i>	100		72 - 130		10/24/17 05:14	1

TestAmerica Pleasanton

# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: TRW Microwave

TestAmerica Job ID: 720-82491-1

Client Sample ID: J6038-T9C-101017

Lab Sample ID: 720-82491-4

Date Collected: 10/10/17 08:42

Matrix: Water

Date Received: 10/10/17 17:00

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.50		ug/L			10/23/17 21:15	1
1,1-Dichloroethane	ND		0.50		ug/L			10/23/17 21:15	1
Dichlorodifluoromethane	ND		0.50		ug/L			10/23/17 21:15	1
Vinyl chloride	ND		0.50		ug/L			10/23/17 21:15	1
Chloroethane	ND		1.0		ug/L			10/23/17 21:15	1
Trichlorofluoromethane	ND		1.0		ug/L			10/23/17 21:15	1
Methylene Chloride	ND		5.0		ug/L			10/23/17 21:15	1
trans-1,2-Dichloroethene	ND		0.50		ug/L			10/23/17 21:15	1
cis-1,2-Dichloroethene	ND		0.50		ug/L			10/23/17 21:15	1
Chloroform	ND		1.0		ug/L			10/23/17 21:15	1
1,1,1-Trichloroethane	ND		0.50		ug/L			10/23/17 21:15	1
Carbon tetrachloride	ND		0.50		ug/L			10/23/17 21:15	1
1,2-Dichloroethane	ND		0.50		ug/L			10/23/17 21:15	1
Trichloroethene	ND		0.50		ug/L			10/23/17 21:15	1
1,2-Dichloropropane	ND		0.50		ug/L			10/23/17 21:15	1
Dichlorobromomethane	ND		0.50		ug/L			10/23/17 21:15	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			10/23/17 21:15	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			10/23/17 21:15	1
1,1,2-Trichloroethane	ND		0.50		ug/L			10/23/17 21:15	1
Tetrachloroethene	ND		0.50		ug/L			10/23/17 21:15	1
Chlorodibromomethane	ND		0.50		ug/L			10/23/17 21:15	1
Chlorobenzene	ND		0.50		ug/L			10/23/17 21:15	1
Bromoform	ND		1.0		ug/L			10/23/17 21:15	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			10/23/17 21:15	1
1,3-Dichlorobenzene	ND		0.50		ug/L			10/23/17 21:15	1
1,4-Dichlorobenzene	ND		0.50		ug/L			10/23/17 21:15	1
1,2-Dichlorobenzene	ND		0.50		ug/L			10/23/17 21:15	1
Chloromethane	ND		1.0		ug/L			10/23/17 21:15	1
Bromomethane	ND		1.0		ug/L			10/23/17 21:15	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50		ug/L			10/23/17 21:15	1
EDB	ND		0.50		ug/L			10/23/17 21:15	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			10/23/17 21:15	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Toluene-d8 (Surr)	97		70 - 130					10/23/17 21:15	1
4-Bromofluorobenzene	100		67 - 130					10/23/17 21:15	1
1,2-Dichloroethane-d4 (Surr)	98		72 - 130					10/23/17 21:15	1

TestAmerica Pleasanton

# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: TRW Microwave

TestAmerica Job ID: 720-82491-1

Client Sample ID: J6038-T9B-101017

Lab Sample ID: 720-82491-5

Date Collected: 10/10/17 09:14

Matrix: Water

Date Received: 10/10/17 17:00

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>1,1-Dichloroethene</b>	<b>2.3</b>		1.0		ug/L			10/23/17 21:45	2
1,1-Dichloroethane	ND		1.0		ug/L			10/23/17 21:45	2
Dichlorodifluoromethane	ND		1.0		ug/L			10/23/17 21:45	2
<b>Vinyl chloride</b>	<b>2.1</b>		1.0		ug/L			10/23/17 21:45	2
Chloroethane	ND		2.0		ug/L			10/23/17 21:45	2
Trichlorofluoromethane	ND		2.0		ug/L			10/23/17 21:45	2
Methylene Chloride	ND		10		ug/L			10/23/17 21:45	2
<b>trans-1,2-Dichloroethene</b>	<b>3.5</b>		1.0		ug/L			10/23/17 21:45	2
<b>cis-1,2-Dichloroethene</b>	<b>260</b>		1.0		ug/L			10/23/17 21:45	2
Chloroform	ND		2.0		ug/L			10/23/17 21:45	2
1,1,1-Trichloroethane	ND		1.0		ug/L			10/23/17 21:45	2
Carbon tetrachloride	ND		1.0		ug/L			10/23/17 21:45	2
1,2-Dichloroethane	ND		1.0		ug/L			10/23/17 21:45	2
<b>Trichloroethene</b>	<b>310</b>		1.0		ug/L			10/23/17 21:45	2
1,2-Dichloropropane	ND		1.0		ug/L			10/23/17 21:45	2
Dichlorobromomethane	ND		1.0		ug/L			10/23/17 21:45	2
trans-1,3-Dichloropropene	ND		1.0		ug/L			10/23/17 21:45	2
cis-1,3-Dichloropropene	ND		1.0		ug/L			10/23/17 21:45	2
1,1,2-Trichloroethane	ND		1.0		ug/L			10/23/17 21:45	2
<b>Tetrachloroethene</b>	<b>1.7</b>		1.0		ug/L			10/23/17 21:45	2
Chlorodibromomethane	ND		1.0		ug/L			10/23/17 21:45	2
Chlorobenzene	ND		1.0		ug/L			10/23/17 21:45	2
Bromoform	ND		2.0		ug/L			10/23/17 21:45	2
1,1,2,2-Tetrachloroethane	ND		1.0		ug/L			10/23/17 21:45	2
1,3-Dichlorobenzene	ND		1.0		ug/L			10/23/17 21:45	2
1,4-Dichlorobenzene	ND		1.0		ug/L			10/23/17 21:45	2
1,2-Dichlorobenzene	ND		1.0		ug/L			10/23/17 21:45	2
Chloromethane	ND		2.0		ug/L			10/23/17 21:45	2
Bromomethane	ND		2.0		ug/L			10/23/17 21:45	2
<b>1,1,2-Trichloro-1,2,2-trifluoroethane</b>	<b>1.0</b>		1.0		ug/L			10/23/17 21:45	2
EDB	ND		1.0		ug/L			10/23/17 21:45	2
1,2,4-Trichlorobenzene	ND		2.0		ug/L			10/23/17 21:45	2
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
<i>Toluene-d8 (Surr)</i>	99		70 - 130					10/23/17 21:45	2
<i>4-Bromofluorobenzene</i>	91		67 - 130					10/23/17 21:45	2
<i>1,2-Dichloroethane-d4 (Surr)</i>	99		72 - 130					10/23/17 21:45	2

TestAmerica Pleasanton

# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: TRW Microwave

TestAmerica Job ID: 720-82491-1

Client Sample ID: J6038-T9A-101017

Lab Sample ID: 720-82491-6

Date Collected: 10/10/17 09:53

Matrix: Water

Date Received: 10/10/17 17:00

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.50		ug/L			10/23/17 22:15	1
1,1-Dichloroethane	ND		0.50		ug/L			10/23/17 22:15	1
Dichlorodifluoromethane	ND		0.50		ug/L			10/23/17 22:15	1
Vinyl chloride	ND		0.50		ug/L			10/23/17 22:15	1
Chloroethane	ND		1.0		ug/L			10/23/17 22:15	1
Trichlorofluoromethane	ND		1.0		ug/L			10/23/17 22:15	1
Methylene Chloride	ND		5.0		ug/L			10/23/17 22:15	1
<b>trans-1,2-Dichloroethene</b>	<b>2.5</b>		0.50		ug/L			10/23/17 22:15	1
<b>cis-1,2-Dichloroethene</b>	<b>77</b>		0.50		ug/L			10/23/17 22:15	1
Chloroform	ND		1.0		ug/L			10/23/17 22:15	1
1,1,1-Trichloroethane	ND		0.50		ug/L			10/23/17 22:15	1
Carbon tetrachloride	ND		0.50		ug/L			10/23/17 22:15	1
1,2-Dichloroethane	ND		0.50		ug/L			10/23/17 22:15	1
<b>Trichloroethene</b>	<b>48</b>		0.50		ug/L			10/23/17 22:15	1
1,2-Dichloropropane	ND		0.50		ug/L			10/23/17 22:15	1
Dichlorobromomethane	ND		0.50		ug/L			10/23/17 22:15	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			10/23/17 22:15	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			10/23/17 22:15	1
1,1,2-Trichloroethane	ND		0.50		ug/L			10/23/17 22:15	1
<b>Tetrachloroethene</b>	<b>0.76</b>		0.50		ug/L			10/23/17 22:15	1
Chlorodibromomethane	ND		0.50		ug/L			10/23/17 22:15	1
Chlorobenzene	ND		0.50		ug/L			10/23/17 22:15	1
Bromoform	ND		1.0		ug/L			10/23/17 22:15	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			10/23/17 22:15	1
1,3-Dichlorobenzene	ND		0.50		ug/L			10/23/17 22:15	1
1,4-Dichlorobenzene	ND		0.50		ug/L			10/23/17 22:15	1
<b>1,2-Dichlorobenzene</b>	<b>2.3</b>		0.50		ug/L			10/23/17 22:15	1
Chloromethane	ND		1.0		ug/L			10/23/17 22:15	1
Bromomethane	ND		1.0		ug/L			10/23/17 22:15	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50		ug/L			10/23/17 22:15	1
EDB	ND		0.50		ug/L			10/23/17 22:15	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			10/23/17 22:15	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	98		70 - 130					10/23/17 22:15	1
4-Bromofluorobenzene	92		67 - 130					10/23/17 22:15	1
1,2-Dichloroethane-d4 (Surr)	100		72 - 130					10/23/17 22:15	1

TestAmerica Pleasanton

# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: TRW Microwave

TestAmerica Job ID: 720-82491-1

Client Sample ID: J6038-T16A-101017

Lab Sample ID: 720-82491-7

Date Collected: 10/10/17 10:47

Matrix: Water

Date Received: 10/10/17 17:00

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>1,1-Dichloroethene</b>	<b>0.51</b>		0.50		ug/L			10/23/17 22:45	1
1,1-Dichloroethane	ND		0.50		ug/L			10/23/17 22:45	1
Dichlorodifluoromethane	ND		0.50		ug/L			10/23/17 22:45	1
<b>Vinyl chloride</b>	<b>3.4</b>		0.50		ug/L			10/23/17 22:45	1
Chloroethane	ND		1.0		ug/L			10/23/17 22:45	1
Trichlorofluoromethane	ND		1.0		ug/L			10/23/17 22:45	1
Methylene Chloride	ND		5.0		ug/L			10/23/17 22:45	1
<b>trans-1,2-Dichloroethene</b>	<b>2.5</b>		0.50		ug/L			10/23/17 22:45	1
<b>cis-1,2-Dichloroethene</b>	<b>72</b>		0.50		ug/L			10/23/17 22:45	1
Chloroform	ND		1.0		ug/L			10/23/17 22:45	1
1,1,1-Trichloroethane	ND		0.50		ug/L			10/23/17 22:45	1
Carbon tetrachloride	ND		0.50		ug/L			10/23/17 22:45	1
1,2-Dichloroethane	ND		0.50		ug/L			10/23/17 22:45	1
<b>Trichloroethene</b>	<b>59</b>		0.50		ug/L			10/23/17 22:45	1
1,2-Dichloropropane	ND		0.50		ug/L			10/23/17 22:45	1
Dichlorobromomethane	ND		0.50		ug/L			10/23/17 22:45	1
trans-1,3-Dichloropropene	ND	F2	0.50		ug/L			10/23/17 22:45	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			10/23/17 22:45	1
1,1,2-Trichloroethane	ND	F2	0.50		ug/L			10/23/17 22:45	1
<b>Tetrachloroethene</b>	<b>1.0</b>		0.50		ug/L			10/23/17 22:45	1
Chlorodibromomethane	ND		0.50		ug/L			10/23/17 22:45	1
Chlorobenzene	ND		0.50		ug/L			10/23/17 22:45	1
Bromoform	ND		1.0		ug/L			10/23/17 22:45	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			10/23/17 22:45	1
1,3-Dichlorobenzene	ND		0.50		ug/L			10/23/17 22:45	1
1,4-Dichlorobenzene	ND		0.50		ug/L			10/23/17 22:45	1
<b>1,2-Dichlorobenzene</b>	<b>1.2</b>		0.50		ug/L			10/23/17 22:45	1
Chloromethane	ND		1.0		ug/L			10/23/17 22:45	1
Bromomethane	ND		1.0		ug/L			10/23/17 22:45	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50		ug/L			10/23/17 22:45	1
EDB	ND		0.50		ug/L			10/23/17 22:45	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			10/23/17 22:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>Toluene-d8 (Surr)</i>	98		70 - 130		10/23/17 22:45	1
<i>4-Bromofluorobenzene</i>	85		67 - 130		10/23/17 22:45	1
<i>1,2-Dichloroethane-d4 (Surr)</i>	99		72 - 130		10/23/17 22:45	1

TestAmerica Pleasanton

# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: TRW Microwave

TestAmerica Job ID: 720-82491-1

Client Sample ID: J6038-T10B-101017

Lab Sample ID: 720-82491-8

Date Collected: 10/10/17 11:22

Matrix: Water

Date Received: 10/10/17 17:00

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	0.94		0.50		ug/L			10/23/17 23:15	1
1,1-Dichloroethane	0.65		0.50		ug/L			10/23/17 23:15	1
Dichlorodifluoromethane	ND		0.50		ug/L			10/23/17 23:15	1
Vinyl chloride	50		0.50		ug/L			10/23/17 23:15	1
Chloroethane	ND		1.0		ug/L			10/23/17 23:15	1
Trichlorofluoromethane	ND		1.0		ug/L			10/23/17 23:15	1
Methylene Chloride	ND		5.0		ug/L			10/23/17 23:15	1
trans-1,2-Dichloroethene	3.5		0.50		ug/L			10/23/17 23:15	1
cis-1,2-Dichloroethene	150		0.50		ug/L			10/23/17 23:15	1
Chloroform	ND		1.0		ug/L			10/23/17 23:15	1
1,1,1-Trichloroethane	ND		0.50		ug/L			10/23/17 23:15	1
Carbon tetrachloride	ND		0.50		ug/L			10/23/17 23:15	1
1,2-Dichloroethane	ND		0.50		ug/L			10/23/17 23:15	1
Trichloroethene	41		0.50		ug/L			10/23/17 23:15	1
1,2-Dichloropropane	ND		0.50		ug/L			10/23/17 23:15	1
Dichlorobromomethane	ND		0.50		ug/L			10/23/17 23:15	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			10/23/17 23:15	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			10/23/17 23:15	1
1,1,2-Trichloroethane	ND		0.50		ug/L			10/23/17 23:15	1
Tetrachloroethene	1.6		0.50		ug/L			10/23/17 23:15	1
Chlorodibromomethane	ND		0.50		ug/L			10/23/17 23:15	1
Chlorobenzene	ND		0.50		ug/L			10/23/17 23:15	1
Bromoform	ND		1.0		ug/L			10/23/17 23:15	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			10/23/17 23:15	1
1,3-Dichlorobenzene	ND		0.50		ug/L			10/23/17 23:15	1
1,4-Dichlorobenzene	ND		0.50		ug/L			10/23/17 23:15	1
1,2-Dichlorobenzene	4.2		0.50		ug/L			10/23/17 23:15	1
Chloromethane	ND		1.0		ug/L			10/23/17 23:15	1
Bromomethane	ND		1.0		ug/L			10/23/17 23:15	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50		ug/L			10/23/17 23:15	1
EDB	ND		0.50		ug/L			10/23/17 23:15	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			10/23/17 23:15	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Toluene-d8 (Surr)	103		70 - 130					10/23/17 23:15	1
4-Bromofluorobenzene	79		67 - 130					10/23/17 23:15	1
1,2-Dichloroethane-d4 (Surr)	100		72 - 130					10/23/17 23:15	1

TestAmerica Pleasanton

# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: TRW Microwave

TestAmerica Job ID: 720-82491-1

Client Sample ID: J6038-T18B-101017

Lab Sample ID: 720-82491-9

Date Collected: 10/10/17 13:24

Matrix: Water

Date Received: 10/10/17 17:00

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.50		ug/L			10/23/17 23:45	1
1,1-Dichloroethane	ND		0.50		ug/L			10/23/17 23:45	1
Dichlorodifluoromethane	ND		0.50		ug/L			10/23/17 23:45	1
Vinyl chloride	ND		0.50		ug/L			10/23/17 23:45	1
Chloroethane	ND		1.0		ug/L			10/23/17 23:45	1
Trichlorofluoromethane	ND		1.0		ug/L			10/23/17 23:45	1
Methylene Chloride	ND		5.0		ug/L			10/23/17 23:45	1
trans-1,2-Dichloroethene	ND		0.50		ug/L			10/23/17 23:45	1
cis-1,2-Dichloroethene	ND		0.50		ug/L			10/23/17 23:45	1
Chloroform	ND		1.0		ug/L			10/23/17 23:45	1
1,1,1-Trichloroethane	ND		0.50		ug/L			10/23/17 23:45	1
Carbon tetrachloride	ND		0.50		ug/L			10/23/17 23:45	1
1,2-Dichloroethane	ND		0.50		ug/L			10/23/17 23:45	1
Trichloroethene	ND		0.50		ug/L			10/23/17 23:45	1
1,2-Dichloropropane	ND		0.50		ug/L			10/23/17 23:45	1
Dichlorobromomethane	ND		0.50		ug/L			10/23/17 23:45	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			10/23/17 23:45	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			10/23/17 23:45	1
1,1,2-Trichloroethane	ND		0.50		ug/L			10/23/17 23:45	1
Tetrachloroethene	ND		0.50		ug/L			10/23/17 23:45	1
Chlorodibromomethane	ND		0.50		ug/L			10/23/17 23:45	1
Chlorobenzene	ND		0.50		ug/L			10/23/17 23:45	1
Bromoform	ND		1.0		ug/L			10/23/17 23:45	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			10/23/17 23:45	1
1,3-Dichlorobenzene	ND		0.50		ug/L			10/23/17 23:45	1
1,4-Dichlorobenzene	ND		0.50		ug/L			10/23/17 23:45	1
1,2-Dichlorobenzene	ND		0.50		ug/L			10/23/17 23:45	1
Chloromethane	ND		1.0		ug/L			10/23/17 23:45	1
Bromomethane	ND		1.0		ug/L			10/23/17 23:45	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50		ug/L			10/23/17 23:45	1
EDB	ND		0.50		ug/L			10/23/17 23:45	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			10/23/17 23:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	97		70 - 130		10/23/17 23:45	1
4-Bromofluorobenzene	81		67 - 130		10/23/17 23:45	1
1,2-Dichloroethane-d4 (Surr)	100		72 - 130		10/23/17 23:45	1

TestAmerica Pleasanton

# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: TRW Microwave

TestAmerica Job ID: 720-82491-1

Client Sample ID: J6038-T20B-101017

Lab Sample ID: 720-82491-10

Date Collected: 10/10/17 13:59

Matrix: Water

Date Received: 10/10/17 17:00

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		5.0		ug/L			10/24/17 12:32	10
1,1-Dichloroethane	ND		5.0		ug/L			10/24/17 12:32	10
Dichlorodifluoromethane	ND		5.0		ug/L			10/24/17 12:32	10
Vinyl chloride	ND		5.0		ug/L			10/24/17 12:32	10
Chloroethane	ND	*	10		ug/L			10/24/17 12:32	10
Trichlorofluoromethane	ND	*	10		ug/L			10/24/17 12:32	10
Methylene Chloride	ND	*	50		ug/L			10/24/17 12:32	10
trans-1,2-Dichloroethene	ND		5.0		ug/L			10/24/17 12:32	10
<b>cis-1,2-Dichloroethene</b>	<b>280</b>		5.0		ug/L			10/24/17 12:32	10
Chloroform	ND		10		ug/L			10/24/17 12:32	10
1,1,1-Trichloroethane	ND		5.0		ug/L			10/24/17 12:32	10
Carbon tetrachloride	ND		5.0		ug/L			10/24/17 12:32	10
1,2-Dichloroethane	ND		5.0		ug/L			10/24/17 12:32	10
<b>Trichloroethene</b>	<b>230</b>		5.0		ug/L			10/24/17 12:32	10
1,2-Dichloropropane	ND		5.0		ug/L			10/24/17 12:32	10
Dichlorobromomethane	ND		5.0		ug/L			10/24/17 12:32	10
trans-1,3-Dichloropropene	ND		5.0		ug/L			10/24/17 12:32	10
cis-1,3-Dichloropropene	ND		5.0		ug/L			10/24/17 12:32	10
1,1,2-Trichloroethane	ND		5.0		ug/L			10/24/17 12:32	10
Tetrachloroethene	ND		5.0		ug/L			10/24/17 12:32	10
Chlorodibromomethane	ND		5.0		ug/L			10/24/17 12:32	10
Chlorobenzene	ND		5.0		ug/L			10/24/17 12:32	10
Bromoform	ND		10		ug/L			10/24/17 12:32	10
1,1,2,2-Tetrachloroethane	ND	*	5.0		ug/L			10/24/17 12:32	10
1,3-Dichlorobenzene	ND		5.0		ug/L			10/24/17 12:32	10
1,4-Dichlorobenzene	ND		5.0		ug/L			10/24/17 12:32	10
1,2-Dichlorobenzene	ND		5.0		ug/L			10/24/17 12:32	10
Chloromethane	ND		10		ug/L			10/24/17 12:32	10
Bromomethane	ND		10		ug/L			10/24/17 12:32	10
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0		ug/L			10/24/17 12:32	10
EDB	ND		5.0		ug/L			10/24/17 12:32	10
1,2,4-Trichlorobenzene	ND		10		ug/L			10/24/17 12:32	10
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
<i>Toluene-d8 (Surr)</i>	114		70 - 130					10/24/17 12:32	10
<i>4-Bromofluorobenzene</i>	89		67 - 130					10/24/17 12:32	10
<i>1,2-Dichloroethane-d4 (Surr)</i>	103		72 - 130					10/24/17 12:32	10

TestAmerica Pleasanton

# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: TRW Microwave

TestAmerica Job ID: 720-82491-1

Client Sample ID: J6038-T7A-101017-1

Lab Sample ID: 720-82491-11

Date Collected: 10/10/17 14:48

Matrix: Water

Date Received: 10/10/17 17:00

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		2.5		ug/L			10/24/17 00:15	5
1,1-Dichloroethane	ND		2.5		ug/L			10/24/17 00:15	5
Dichlorodifluoromethane	ND		2.5		ug/L			10/24/17 00:15	5
Vinyl chloride	ND		2.5		ug/L			10/24/17 00:15	5
Chloroethane	ND		5.0		ug/L			10/24/17 00:15	5
Trichlorofluoromethane	ND		5.0		ug/L			10/24/17 00:15	5
Methylene Chloride	ND		25		ug/L			10/24/17 00:15	5
trans-1,2-Dichloroethene	ND		2.5		ug/L			10/24/17 00:15	5
<b>cis-1,2-Dichloroethene</b>	<b>82</b>		2.5		ug/L			10/24/17 00:15	5
Chloroform	ND		5.0		ug/L			10/24/17 00:15	5
1,1,1-Trichloroethane	ND		2.5		ug/L			10/24/17 00:15	5
Carbon tetrachloride	ND		2.5		ug/L			10/24/17 00:15	5
1,2-Dichloroethane	ND		2.5		ug/L			10/24/17 00:15	5
<b>Trichloroethene</b>	<b>160</b>		2.5		ug/L			10/24/17 00:15	5
1,2-Dichloropropane	ND		2.5		ug/L			10/24/17 00:15	5
Dichlorobromomethane	ND		2.5		ug/L			10/24/17 00:15	5
trans-1,3-Dichloropropene	ND		2.5		ug/L			10/24/17 00:15	5
cis-1,3-Dichloropropene	ND		2.5		ug/L			10/24/17 00:15	5
1,1,2-Trichloroethane	ND		2.5		ug/L			10/24/17 00:15	5
Tetrachloroethene	ND		2.5		ug/L			10/24/17 00:15	5
Chlorodibromomethane	ND		2.5		ug/L			10/24/17 00:15	5
Chlorobenzene	ND		2.5		ug/L			10/24/17 00:15	5
Bromoform	ND		5.0		ug/L			10/24/17 00:15	5
1,1,2,2-Tetrachloroethane	ND		2.5		ug/L			10/24/17 00:15	5
1,3-Dichlorobenzene	ND		2.5		ug/L			10/24/17 00:15	5
1,4-Dichlorobenzene	ND		2.5		ug/L			10/24/17 00:15	5
1,2-Dichlorobenzene	ND		2.5		ug/L			10/24/17 00:15	5
Chloromethane	ND		5.0		ug/L			10/24/17 00:15	5
Bromomethane	ND		5.0		ug/L			10/24/17 00:15	5
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		2.5		ug/L			10/24/17 00:15	5
EDB	ND		2.5		ug/L			10/24/17 00:15	5
1,2,4-Trichlorobenzene	ND		5.0		ug/L			10/24/17 00:15	5
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
<i>Toluene-d8 (Surr)</i>	112		70 - 130					10/24/17 00:15	5
<i>4-Bromofluorobenzene</i>	88		67 - 130					10/24/17 00:15	5
<i>1,2-Dichloroethane-d4 (Surr)</i>	97		72 - 130					10/24/17 00:15	5

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: TRW Microwave

TestAmerica Job ID: 720-82491-1

Client Sample ID: J6038-T7A-101017-2

Lab Sample ID: 720-82491-12

Date Collected: 10/10/17 14:50

Matrix: Water

Date Received: 10/10/17 17:00

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		2.5		ug/L			10/24/17 00:45	5
1,1-Dichloroethane	ND		2.5		ug/L			10/24/17 00:45	5
Dichlorodifluoromethane	ND		2.5		ug/L			10/24/17 00:45	5
Vinyl chloride	ND		2.5		ug/L			10/24/17 00:45	5
Chloroethane	ND		5.0		ug/L			10/24/17 00:45	5
Trichlorofluoromethane	ND		5.0		ug/L			10/24/17 00:45	5
Methylene Chloride	ND		25		ug/L			10/24/17 00:45	5
trans-1,2-Dichloroethene	ND		2.5		ug/L			10/24/17 00:45	5
<b>cis-1,2-Dichloroethene</b>	<b>84</b>		2.5		ug/L			10/24/17 00:45	5
Chloroform	ND		5.0		ug/L			10/24/17 00:45	5
1,1,1-Trichloroethane	ND		2.5		ug/L			10/24/17 00:45	5
Carbon tetrachloride	ND		2.5		ug/L			10/24/17 00:45	5
1,2-Dichloroethane	ND		2.5		ug/L			10/24/17 00:45	5
<b>Trichloroethene</b>	<b>160</b>		2.5		ug/L			10/24/17 00:45	5
1,2-Dichloropropane	ND		2.5		ug/L			10/24/17 00:45	5
Dichlorobromomethane	ND		2.5		ug/L			10/24/17 00:45	5
trans-1,3-Dichloropropene	ND		2.5		ug/L			10/24/17 00:45	5
cis-1,3-Dichloropropene	ND		2.5		ug/L			10/24/17 00:45	5
1,1,2-Trichloroethane	ND		2.5		ug/L			10/24/17 00:45	5
Tetrachloroethene	ND		2.5		ug/L			10/24/17 00:45	5
Chlorodibromomethane	ND		2.5		ug/L			10/24/17 00:45	5
Chlorobenzene	ND		2.5		ug/L			10/24/17 00:45	5
Bromoform	ND		5.0		ug/L			10/24/17 00:45	5
1,1,2,2-Tetrachloroethane	ND		2.5		ug/L			10/24/17 00:45	5
1,3-Dichlorobenzene	ND		2.5		ug/L			10/24/17 00:45	5
1,4-Dichlorobenzene	ND		2.5		ug/L			10/24/17 00:45	5
1,2-Dichlorobenzene	ND		2.5		ug/L			10/24/17 00:45	5
Chloromethane	ND		5.0		ug/L			10/24/17 00:45	5
Bromomethane	ND		5.0		ug/L			10/24/17 00:45	5
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		2.5		ug/L			10/24/17 00:45	5
EDB	ND		2.5		ug/L			10/24/17 00:45	5
1,2,4-Trichlorobenzene	ND		5.0		ug/L			10/24/17 00:45	5
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
<i>Toluene-d8 (Surr)</i>	103		70 - 130					10/24/17 00:45	5
<i>4-Bromofluorobenzene</i>	88		67 - 130					10/24/17 00:45	5
<i>1,2-Dichloroethane-d4 (Surr)</i>	101		72 - 130					10/24/17 00:45	5

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# Surrogate Summary

Client: AECOM Technical Services Inc.  
Project/Site: TRW Microwave

TestAmerica Job ID: 720-82491-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		TOL (70-130)	BFB (67-130)	12DCE (72-130)
720-82491-1	TRIPBLANK-J6038-100917	99	91	94
720-82491-2	J6038-T11C-100917	99	92	98
720-82491-2	J6038-T11C-100917	93	78	93
720-82491-2 MS	J6038-T11C-100917	101	96	102
720-82491-2 MSD	J6038-T11C-100917	108	106	104
720-82491-3	J6038-T23B-101017	97	84	100
720-82491-4	J6038-T9C-101017	97	100	98
720-82491-5	J6038-T9B-101017	99	91	99
720-82491-6	J6038-T9A-101017	98	92	100
720-82491-7	J6038-T16A-101017	98	85	99
720-82491-7 MS	J6038-T16A-101017	122	95	97
720-82491-7 MSD	J6038-T16A-101017	101	93	99
720-82491-8	J6038-T10B-101017	103	79	100
720-82491-9	J6038-T18B-101017	97	81	100
720-82491-10	J6038-T20B-101017	114	89	103
720-82491-11	J6038-T7A-101017-1	112	88	97
720-82491-12	J6038-T7A-101017-2	103	88	101
LCS 720-232554/5	Lab Control Sample	102	92	95
LCS 720-232614/3	Lab Control Sample	111	93	93
LCS 720-232639/5	Lab Control Sample	100	97	97
LCSD 720-232554/6	Lab Control Sample Dup	101	90	96
LCSD 720-232614/4	Lab Control Sample Dup	100	97	93
LCSD 720-232639/6	Lab Control Sample Dup	109	93	92
MB 720-232554/4	Method Blank	101	92	96
MB 720-232614/6	Method Blank	106	86	103
MB 720-232639/4	Method Blank	97	87	95

**Surrogate Legend**

- TOL = Toluene-d8 (Surr)
- BFB = 4-Bromofluorobenzene
- 12DCE = 1,2-Dichloroethane-d4 (Surr)

# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: TRW Microwave

TestAmerica Job ID: 720-82491-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 720-232554/4

Matrix: Water

Analysis Batch: 232554

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.50		ug/L			10/23/17 10:20	1
1,1-Dichloroethane	ND		0.50		ug/L			10/23/17 10:20	1
Dichlorodifluoromethane	ND		0.50		ug/L			10/23/17 10:20	1
Vinyl chloride	ND		0.50		ug/L			10/23/17 10:20	1
Chloroethane	ND		1.0		ug/L			10/23/17 10:20	1
Trichlorofluoromethane	ND		1.0		ug/L			10/23/17 10:20	1
Methylene Chloride	ND		5.0		ug/L			10/23/17 10:20	1
trans-1,2-Dichloroethene	ND		0.50		ug/L			10/23/17 10:20	1
cis-1,2-Dichloroethene	ND		0.50		ug/L			10/23/17 10:20	1
Chloroform	ND		1.0		ug/L			10/23/17 10:20	1
1,1,1-Trichloroethane	ND		0.50		ug/L			10/23/17 10:20	1
Carbon tetrachloride	ND		0.50		ug/L			10/23/17 10:20	1
1,2-Dichloroethane	ND		0.50		ug/L			10/23/17 10:20	1
Trichloroethene	ND		0.50		ug/L			10/23/17 10:20	1
1,2-Dichloropropane	ND		0.50		ug/L			10/23/17 10:20	1
Dichlorobromomethane	ND		0.50		ug/L			10/23/17 10:20	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			10/23/17 10:20	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			10/23/17 10:20	1
1,1,2-Trichloroethane	ND		0.50		ug/L			10/23/17 10:20	1
Tetrachloroethene	ND		0.50		ug/L			10/23/17 10:20	1
Chlorodibromomethane	ND		0.50		ug/L			10/23/17 10:20	1
Chlorobenzene	ND		0.50		ug/L			10/23/17 10:20	1
Bromoform	ND		1.0		ug/L			10/23/17 10:20	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			10/23/17 10:20	1
1,3-Dichlorobenzene	ND		0.50		ug/L			10/23/17 10:20	1
1,4-Dichlorobenzene	ND		0.50		ug/L			10/23/17 10:20	1
1,2-Dichlorobenzene	ND		0.50		ug/L			10/23/17 10:20	1
Chloromethane	ND		1.0		ug/L			10/23/17 10:20	1
Bromomethane	ND		1.0		ug/L			10/23/17 10:20	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50		ug/L			10/23/17 10:20	1
EDB	ND		0.50		ug/L			10/23/17 10:20	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			10/23/17 10:20	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	101		70 - 130		10/23/17 10:20	1
4-Bromofluorobenzene	92		67 - 130		10/23/17 10:20	1
1,2-Dichloroethane-d4 (Surr)	96		72 - 130		10/23/17 10:20	1

Lab Sample ID: LCS 720-232554/5

Matrix: Water

Analysis Batch: 232554

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	25.0	23.1		ug/L		92	64 - 128
1,1-Dichloroethane	25.0	24.8		ug/L		99	70 - 130
Dichlorodifluoromethane	25.0	26.8		ug/L		107	32 - 158
Vinyl chloride	25.0	25.7		ug/L		103	54 - 135
Chloroethane	25.0	25.1		ug/L		100	62 - 138

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: TRW Microwave

TestAmerica Job ID: 720-82491-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 720-232554/5**  
**Matrix: Water**  
**Analysis Batch: 232554**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Trichlorofluoromethane	25.0	26.7		ug/L		107	66 - 132
Methylene Chloride	25.0	25.5		ug/L		102	70 - 147
trans-1,2-Dichloroethene	25.0	25.6		ug/L		102	68 - 130
cis-1,2-Dichloroethene	25.0	24.8		ug/L		99	70 - 130
Chloroform	25.0	25.1		ug/L		100	70 - 130
1,1,1-Trichloroethane	25.0	26.6		ug/L		106	70 - 130
Carbon tetrachloride	25.0	27.2		ug/L		109	70 - 146
1,2-Dichloroethane	25.0	24.9		ug/L		100	61 - 132
Trichloroethene	25.0	27.0		ug/L		108	70 - 130
1,2-Dichloropropane	25.0	27.1		ug/L		108	70 - 130
Dichlorobromomethane	25.0	28.0		ug/L		112	70 - 130
trans-1,3-Dichloropropene	25.0	26.4		ug/L		106	70 - 140
cis-1,3-Dichloropropene	25.0	26.4		ug/L		106	70 - 130
1,1,2-Trichloroethane	25.0	27.4		ug/L		110	70 - 130
Tetrachloroethene	25.0	27.2		ug/L		109	70 - 130
Chlorodibromomethane	25.0	27.6		ug/L		111	70 - 145
Chlorobenzene	25.0	25.8		ug/L		103	70 - 130
Bromoform	25.0	25.9		ug/L		104	68 - 136
1,1,2,2-Tetrachloroethane	25.0	26.1		ug/L		104	70 - 130
1,3-Dichlorobenzene	25.0	25.9		ug/L		104	70 - 130
1,4-Dichlorobenzene	25.0	25.8		ug/L		103	70 - 130
1,2-Dichlorobenzene	25.0	25.9		ug/L		103	70 - 130
Chloromethane	25.0	24.9		ug/L		100	52 - 175
Bromomethane	25.0	24.9		ug/L		100	43 - 151
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	24.8		ug/L		99	42 - 162
EDB	25.0	27.3		ug/L		109	70 - 130
1,2,4-Trichlorobenzene	25.0	28.6		ug/L		114	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	102		70 - 130
4-Bromofluorobenzene	92		67 - 130
1,2-Dichloroethane-d4 (Surr)	95		72 - 130

**Lab Sample ID: LCSD 720-232554/6**  
**Matrix: Water**  
**Analysis Batch: 232554**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	25.0	22.5		ug/L		90	64 - 128	3	20
1,1-Dichloroethane	25.0	24.6		ug/L		98	70 - 130	1	20
Dichlorodifluoromethane	25.0	26.2		ug/L		105	32 - 158	2	20
Vinyl chloride	25.0	25.1		ug/L		101	54 - 135	2	20
Chloroethane	25.0	22.7		ug/L		91	62 - 138	10	20
Trichlorofluoromethane	25.0	25.9		ug/L		104	66 - 132	3	20
Methylene Chloride	25.0	25.6		ug/L		102	70 - 147	0	20
trans-1,2-Dichloroethene	25.0	25.2		ug/L		101	68 - 130	1	20
cis-1,2-Dichloroethene	25.0	24.6		ug/L		98	70 - 130	1	20

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: TRW Microwave

TestAmerica Job ID: 720-82491-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 720-232554/6**  
**Matrix: Water**  
**Analysis Batch: 232554**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloroform	25.0	25.1		ug/L		100	70 - 130	0	20
1,1,1-Trichloroethane	25.0	26.1		ug/L		104	70 - 130	2	20
Carbon tetrachloride	25.0	27.0		ug/L		108	70 - 146	1	20
1,2-Dichloroethane	25.0	25.3		ug/L		101	61 - 132	1	20
Trichloroethene	25.0	26.5		ug/L		106	70 - 130	2	20
1,2-Dichloropropane	25.0	27.3		ug/L		109	70 - 130	1	20
Dichlorobromomethane	25.0	27.3		ug/L		109	70 - 130	2	20
trans-1,3-Dichloropropene	25.0	26.5		ug/L		106	70 - 140	0	20
cis-1,3-Dichloropropene	25.0	26.4		ug/L		106	70 - 130	0	20
1,1,2-Trichloroethane	25.0	27.9		ug/L		112	70 - 130	2	20
Tetrachloroethene	25.0	26.1		ug/L		105	70 - 130	4	20
Chlorodibromomethane	25.0	28.0		ug/L		112	70 - 145	1	20
Chlorobenzene	25.0	25.9		ug/L		104	70 - 130	1	20
Bromoform	25.0	26.6		ug/L		106	68 - 136	3	20
1,1,2,2-Tetrachloroethane	25.0	27.0		ug/L		108	70 - 130	4	20
1,3-Dichlorobenzene	25.0	25.8		ug/L		103	70 - 130	1	20
1,4-Dichlorobenzene	25.0	25.7		ug/L		103	70 - 130	0	20
1,2-Dichlorobenzene	25.0	25.8		ug/L		103	70 - 130	0	20
Chloromethane	25.0	25.3		ug/L		101	52 - 175	2	20
Bromomethane	25.0	26.2		ug/L		105	43 - 151	5	20
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	24.4		ug/L		97	42 - 162	2	20
EDB	25.0	27.6		ug/L		111	70 - 130	1	20
1,2,4-Trichlorobenzene	25.0	27.0		ug/L		108	70 - 130	6	20

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
Toluene-d8 (Surr)	101		70 - 130
4-Bromofluorobenzene	90		67 - 130
1,2-Dichloroethane-d4 (Surr)	96		72 - 130

**Lab Sample ID: 720-82491-2 MS**  
**Matrix: Water**  
**Analysis Batch: 232554**

**Client Sample ID: J6038-T11C-100917**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	2.2		25.0	24.7		ug/L		90	60 - 140
1,1-Dichloroethane	ND		25.0	26.1		ug/L		103	60 - 140
Dichlorodifluoromethane	ND		25.0	28.5		ug/L		114	38 - 140
Vinyl chloride	2.8		25.0	37.4		ug/L		138	58 - 140
Chloroethane	ND		25.0	24.2		ug/L		97	51 - 140
Trichlorofluoromethane	ND		25.0	27.2		ug/L		109	60 - 140
Methylene Chloride	ND		25.0	26.7		ug/L		107	40 - 140
trans-1,2-Dichloroethene	0.84		25.0	26.5		ug/L		102	60 - 140
cis-1,2-Dichloroethene	26		25.0	52.1		ug/L		105	60 - 140
Chloroform	ND		25.0	26.6		ug/L		107	60 - 140
1,1,1-Trichloroethane	ND		25.0	27.4		ug/L		110	60 - 140
Carbon tetrachloride	ND		25.0	28.3		ug/L		113	60 - 140
1,2-Dichloroethane	ND		25.0	27.4		ug/L		110	60 - 140

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: TRW Microwave

TestAmerica Job ID: 720-82491-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 720-82491-2 MS

Matrix: Water

Analysis Batch: 232554

Client Sample ID: J6038-T11C-100917

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Trichloroethene	310	E	25.0	324	E 4	ug/L		44	60 - 140
1,2-Dichloropropane	ND		25.0	28.3		ug/L		113	60 - 140
Dichlorobromomethane	ND		25.0	29.7		ug/L		119	60 - 140
trans-1,3-Dichloropropene	ND		25.0	27.8		ug/L		111	60 - 140
cis-1,3-Dichloropropene	ND		25.0	27.5		ug/L		110	60 - 140
1,1,2-Trichloroethane	ND		25.0	29.8		ug/L		119	60 - 140
Tetrachloroethene	ND		25.0	26.9		ug/L		108	60 - 140
Chlorodibromomethane	ND		25.0	29.5		ug/L		118	60 - 140
Chlorobenzene	ND		25.0	26.8		ug/L		107	60 - 140
Bromoform	ND		25.0	28.1		ug/L		112	56 - 140
1,1,2,2-Tetrachloroethane	ND		25.0	26.5		ug/L		106	60 - 140
1,3-Dichlorobenzene	ND		25.0	26.2		ug/L		105	60 - 140
1,4-Dichlorobenzene	ND		25.0	26.3		ug/L		105	60 - 140
1,2-Dichlorobenzene	ND		25.0	27.0		ug/L		108	60 - 140
Chloromethane	ND		25.0	28.4		ug/L		114	52 - 140
Bromomethane	ND		25.0	27.1		ug/L		108	23 - 140
1,1,2-Trichloro-1,2,2-trifluoroethane	10		25.0	33.8		ug/L		95	60 - 140
EDB	ND		25.0	29.4		ug/L		117	60 - 140
1,2,4-Trichlorobenzene	ND		25.0	25.0		ug/L		100	60 - 140

Surrogate	%Recovery	MS MS Qualifier	Limits
Toluene-d8 (Surr)	101		70 - 130
4-Bromofluorobenzene	96		67 - 130
1,2-Dichloroethane-d4 (Surr)	102		72 - 130

Lab Sample ID: 720-82491-2 MSD

Matrix: Water

Analysis Batch: 232554

Client Sample ID: J6038-T11C-100917

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	2.2		25.0	24.5		ug/L		89	60 - 140	1	20
1,1-Dichloroethane	ND		25.0	25.4		ug/L		101	60 - 140	2	20
Dichlorodifluoromethane	ND		25.0	28.6		ug/L		114	38 - 140	0	20
Vinyl chloride	2.8		25.0	32.4		ug/L		118	58 - 140	14	20
Chloroethane	ND		25.0	24.6		ug/L		98	51 - 140	2	20
Trichlorofluoromethane	ND		25.0	27.4		ug/L		109	60 - 140	1	20
Methylene Chloride	ND		25.0	26.6		ug/L		106	40 - 140	1	20
trans-1,2-Dichloroethene	0.84		25.0	26.0		ug/L		101	60 - 140	2	20
cis-1,2-Dichloroethene	26		25.0	50.1		ug/L		97	60 - 140	4	20
Chloroform	ND		25.0	26.0		ug/L		104	60 - 140	3	20
1,1,1-Trichloroethane	ND		25.0	26.9		ug/L		108	60 - 140	2	20
Carbon tetrachloride	ND		25.0	27.4		ug/L		109	60 - 140	3	20
1,2-Dichloroethane	ND		25.0	27.0		ug/L		108	60 - 140	2	20
Trichloroethene	310	E	25.0	303	E 4	ug/L		-42	60 - 140	7	20
1,2-Dichloropropane	ND		25.0	28.2		ug/L		113	60 - 140	1	20
Dichlorobromomethane	ND		25.0	29.3		ug/L		117	60 - 140	1	20
trans-1,3-Dichloropropene	ND		25.0	30.5		ug/L		122	60 - 140	9	20

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: TRW Microwave

TestAmerica Job ID: 720-82491-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 720-82491-2 MSD**  
**Matrix: Water**  
**Analysis Batch: 232554**

**Client Sample ID: J6038-T11C-100917**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
cis-1,3-Dichloropropene	ND		25.0	30.5		ug/L		122	60 - 140	10	20
1,1,2-Trichloroethane	ND		25.0	31.8		ug/L		127	60 - 140	6	20
Tetrachloroethene	ND		25.0	26.0		ug/L		104	60 - 140	4	20
Chlorodibromomethane	ND		25.0	29.5		ug/L		118	60 - 140	0	20
Chlorobenzene	ND		25.0	26.0		ug/L		104	60 - 140	3	20
Bromoform	ND		25.0	28.2		ug/L		113	56 - 140	1	20
1,1,1,2-Tetrachloroethane	ND		25.0	28.5		ug/L		114	60 - 140	7	20
1,3-Dichlorobenzene	ND		25.0	25.5		ug/L		102	60 - 140	3	20
1,4-Dichlorobenzene	ND		25.0	25.8		ug/L		103	60 - 140	2	20
1,2-Dichlorobenzene	ND		25.0	26.3		ug/L		105	60 - 140	3	20
Chloromethane	ND		25.0	28.8		ug/L		115	52 - 140	1	20
Bromomethane	ND		25.0	26.5		ug/L		106	23 - 140	2	20
1,1,2-Trichloro-1,2,2-trifluoroethane	10		25.0	32.5		ug/L		90	60 - 140	4	20
EDB	ND		25.0	29.6		ug/L		118	60 - 140	1	20
1,2,4-Trichlorobenzene	ND		25.0	26.3		ug/L		105	60 - 140	5	20

Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits
Toluene-d8 (Surr)	108		70 - 130
4-Bromofluorobenzene	106		67 - 130
1,2-Dichloroethane-d4 (Surr)	104		72 - 130

**Lab Sample ID: MB 720-232614/6**  
**Matrix: Water**  
**Analysis Batch: 232614**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.50		ug/L			10/23/17 20:45	1
1,1-Dichloroethane	ND		0.50		ug/L			10/23/17 20:45	1
Dichlorodifluoromethane	ND		0.50		ug/L			10/23/17 20:45	1
Vinyl chloride	ND		0.50		ug/L			10/23/17 20:45	1
Chloroethane	ND		1.0		ug/L			10/23/17 20:45	1
Trichlorofluoromethane	ND		1.0		ug/L			10/23/17 20:45	1
Methylene Chloride	ND		5.0		ug/L			10/23/17 20:45	1
trans-1,2-Dichloroethene	ND		0.50		ug/L			10/23/17 20:45	1
cis-1,2-Dichloroethene	ND		0.50		ug/L			10/23/17 20:45	1
Chloroform	ND		1.0		ug/L			10/23/17 20:45	1
1,1,1-Trichloroethane	ND		0.50		ug/L			10/23/17 20:45	1
Carbon tetrachloride	ND		0.50		ug/L			10/23/17 20:45	1
1,2-Dichloroethane	ND		0.50		ug/L			10/23/17 20:45	1
Trichloroethene	ND		0.50		ug/L			10/23/17 20:45	1
1,2-Dichloropropane	ND		0.50		ug/L			10/23/17 20:45	1
Dichlorobromomethane	ND		0.50		ug/L			10/23/17 20:45	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			10/23/17 20:45	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			10/23/17 20:45	1
1,1,2-Trichloroethane	ND		0.50		ug/L			10/23/17 20:45	1
Tetrachloroethene	ND		0.50		ug/L			10/23/17 20:45	1
Chlorodibromomethane	ND		0.50		ug/L			10/23/17 20:45	1

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: TRW Microwave

TestAmerica Job ID: 720-82491-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 720-232614/6**  
**Matrix: Water**  
**Analysis Batch: 232614**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	ND		0.50		ug/L			10/23/17 20:45	1
Bromoform	ND		1.0		ug/L			10/23/17 20:45	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			10/23/17 20:45	1
1,3-Dichlorobenzene	ND		0.50		ug/L			10/23/17 20:45	1
1,4-Dichlorobenzene	ND		0.50		ug/L			10/23/17 20:45	1
1,2-Dichlorobenzene	ND		0.50		ug/L			10/23/17 20:45	1
Chloromethane	ND		1.0		ug/L			10/23/17 20:45	1
Bromomethane	ND		1.0		ug/L			10/23/17 20:45	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50		ug/L			10/23/17 20:45	1
EDB	ND		0.50		ug/L			10/23/17 20:45	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			10/23/17 20:45	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	106		70 - 130					10/23/17 20:45	1
4-Bromofluorobenzene	86		67 - 130					10/23/17 20:45	1
1,2-Dichloroethane-d4 (Surr)	103		72 - 130					10/23/17 20:45	1

**Lab Sample ID: LCS 720-232614/3**  
**Matrix: Water**  
**Analysis Batch: 232614**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	25.0	24.4		ug/L		98	64 - 128
1,1-Dichloroethane	25.0	26.3		ug/L		105	70 - 130
Dichlorodifluoromethane	25.0	29.5		ug/L		118	32 - 158
Vinyl chloride	25.0	31.1		ug/L		124	54 - 135
Chloroethane	25.0	28.3		ug/L		113	62 - 138
Trichlorofluoromethane	25.0	28.7		ug/L		115	66 - 132
Methylene Chloride	25.0	28.0		ug/L		112	70 - 147
trans-1,2-Dichloroethene	25.0	27.0		ug/L		108	68 - 130
cis-1,2-Dichloroethene	25.0	26.2		ug/L		105	70 - 130
Chloroform	25.0	26.5		ug/L		106	70 - 130
1,1,1-Trichloroethane	25.0	28.1		ug/L		112	70 - 130
Carbon tetrachloride	25.0	29.0		ug/L		116	70 - 146
1,2-Dichloroethane	25.0	25.5		ug/L		102	61 - 132
Trichloroethene	25.0	27.7		ug/L		111	70 - 130
1,2-Dichloropropane	25.0	26.4		ug/L		105	70 - 130
Dichlorobromomethane	25.0	27.8		ug/L		111	70 - 130
trans-1,3-Dichloropropene	25.0	30.5		ug/L		122	70 - 140
cis-1,3-Dichloropropene	25.0	27.0		ug/L		108	70 - 130
1,1,2-Trichloroethane	25.0	29.5		ug/L		118	70 - 130
Tetrachloroethene	25.0	29.6		ug/L		118	70 - 130
Chlorodibromomethane	25.0	30.2		ug/L		121	70 - 145
Chlorobenzene	25.0	26.3		ug/L		105	70 - 130
Bromoform	25.0	25.1		ug/L		100	68 - 136
1,1,2,2-Tetrachloroethane	25.0	24.9		ug/L		100	70 - 130
1,3-Dichlorobenzene	25.0	26.2		ug/L		105	70 - 130
1,4-Dichlorobenzene	25.0	26.2		ug/L		105	70 - 130

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: TRW Microwave

TestAmerica Job ID: 720-82491-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 720-232614/3**  
**Matrix: Water**  
**Analysis Batch: 232614**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichlorobenzene	25.0	25.8		ug/L		103	70 - 130
Chloromethane	25.0	27.9		ug/L		112	52 - 175
Bromomethane	25.0	31.7		ug/L		127	43 - 151
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	26.4		ug/L		106	42 - 162
EDB	25.0	29.7		ug/L		119	70 - 130
1,2,4-Trichlorobenzene	25.0	27.4		ug/L		110	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	111		70 - 130
4-Bromofluorobenzene	93		67 - 130
1,2-Dichloroethane-d4 (Surr)	93		72 - 130

**Lab Sample ID: LCSD 720-232614/4**  
**Matrix: Water**  
**Analysis Batch: 232614**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	25.0	23.7		ug/L		95	64 - 128	3	20
1,1-Dichloroethane	25.0	25.7		ug/L		103	70 - 130	3	20
Dichlorodifluoromethane	25.0	30.0		ug/L		120	32 - 158	2	20
Vinyl chloride	25.0	31.3		ug/L		125	54 - 135	1	20
Chloroethane	25.0	29.5		ug/L		118	62 - 138	4	20
Trichlorofluoromethane	25.0	27.4		ug/L		110	66 - 132	5	20
Methylene Chloride	25.0	27.3		ug/L		109	70 - 147	2	20
trans-1,2-Dichloroethene	25.0	26.1		ug/L		104	68 - 130	3	20
cis-1,2-Dichloroethene	25.0	25.6		ug/L		103	70 - 130	2	20
Chloroform	25.0	26.1		ug/L		104	70 - 130	2	20
1,1,1-Trichloroethane	25.0	27.7		ug/L		111	70 - 130	1	20
Carbon tetrachloride	25.0	28.6		ug/L		114	70 - 146	1	20
1,2-Dichloroethane	25.0	25.6		ug/L		102	61 - 132	0	20
Trichloroethene	25.0	27.1		ug/L		108	70 - 130	2	20
1,2-Dichloropropane	25.0	26.7		ug/L		107	70 - 130	1	20
Dichlorobromomethane	25.0	28.0		ug/L		112	70 - 130	1	20
trans-1,3-Dichloropropene	25.0	30.6		ug/L		122	70 - 140	0	20
cis-1,3-Dichloropropene	25.0	31.3		ug/L		125	70 - 130	15	20
1,1,2-Trichloroethane	25.0	29.5		ug/L		118	70 - 130	0	20
Tetrachloroethene	25.0	27.8		ug/L		111	70 - 130	6	20
Chlorodibromomethane	25.0	28.3		ug/L		113	70 - 145	7	20
Chlorobenzene	25.0	26.7		ug/L		107	70 - 130	2	20
Bromoform	25.0	26.5		ug/L		106	68 - 136	6	20
1,1,2,2-Tetrachloroethane	25.0	22.7		ug/L		91	70 - 130	9	20
1,3-Dichlorobenzene	25.0	26.3		ug/L		105	70 - 130	1	20
1,4-Dichlorobenzene	25.0	26.0		ug/L		104	70 - 130	1	20
1,2-Dichlorobenzene	25.0	25.0		ug/L		100	70 - 130	3	20
Chloromethane	25.0	29.4		ug/L		118	52 - 175	5	20
Bromomethane	25.0	29.2		ug/L		117	43 - 151	8	20

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: TRW Microwave

TestAmerica Job ID: 720-82491-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 720-232614/4  
Matrix: Water  
Analysis Batch: 232614

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	25.9		ug/L		104	42 - 162	2	20
EDB	25.0	27.4		ug/L		110	70 - 130	8	20
1,2,4-Trichlorobenzene	25.0	23.4		ug/L		94	70 - 130	16	20
<b>LCSD LCSD</b>									
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>						
Toluene-d8 (Surr)	100		70 - 130						
4-Bromofluorobenzene	97		67 - 130						
1,2-Dichloroethane-d4 (Surr)	93		72 - 130						

Lab Sample ID: 720-82491-7 MS  
Matrix: Water  
Analysis Batch: 232614

Client Sample ID: J6038-T16A-101017  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	0.51		25.0	23.8		ug/L		93	60 - 140
1,1-Dichloroethane	ND		25.0	25.4		ug/L		100	60 - 140
Dichlorodifluoromethane	ND		25.0	26.5		ug/L		106	38 - 140
Vinyl chloride	3.4		25.0	27.4		ug/L		96	58 - 140
Chloroethane	ND		25.0	25.8		ug/L		103	51 - 140
Trichlorofluoromethane	ND		25.0	27.4		ug/L		110	60 - 140
Methylene Chloride	ND		25.0	27.2		ug/L		109	40 - 140
trans-1,2-Dichloroethene	2.5		25.0	28.2		ug/L		103	60 - 140
cis-1,2-Dichloroethene	72		25.0	96.1		ug/L		97	60 - 140
Chloroform	ND		25.0	26.7		ug/L		107	60 - 140
1,1,1-Trichloroethane	ND		25.0	28.6		ug/L		114	60 - 140
Carbon tetrachloride	ND		25.0	29.4		ug/L		118	60 - 140
1,2-Dichloroethane	ND		25.0	26.4		ug/L		106	60 - 140
Trichloroethene	59		25.0	88.6		ug/L		120	60 - 140
1,2-Dichloropropane	ND		25.0	27.9		ug/L		112	60 - 140
Dichlorobromomethane	ND		25.0	30.5		ug/L		122	60 - 140
trans-1,3-Dichloropropene	ND F2		25.0	32.2		ug/L		129	60 - 140
cis-1,3-Dichloropropene	ND		25.0	29.9		ug/L		119	60 - 140
1,1,2-Trichloroethane	ND F2		25.0	35.0		ug/L		140	60 - 140
Tetrachloroethene	1.0		25.0	33.0		ug/L		128	60 - 140
Chlorodibromomethane	ND		25.0	34.4		ug/L		138	60 - 140
Chlorobenzene	ND		25.0	27.0		ug/L		108	60 - 140
Bromoform	ND		25.0	26.1		ug/L		105	56 - 140
1,1,2,2-Tetrachloroethane	ND		25.0	31.0		ug/L		124	60 - 140
1,3-Dichlorobenzene	ND		25.0	26.3		ug/L		105	60 - 140
1,4-Dichlorobenzene	ND		25.0	26.1		ug/L		105	60 - 140
1,2-Dichlorobenzene	1.2		25.0	27.7		ug/L		106	60 - 140
Chloromethane	ND		25.0	23.5		ug/L		94	52 - 140
Bromomethane	ND		25.0	26.1		ug/L		104	23 - 140
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		25.0	26.3		ug/L		105	60 - 140
EDB	ND		25.0	34.1		ug/L		136	60 - 140
1,2,4-Trichlorobenzene	ND		25.0	25.9		ug/L		104	60 - 140

TestAmerica Pleasanton

# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: TRW Microwave

TestAmerica Job ID: 720-82491-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 720-82491-7 MS**  
**Matrix: Water**  
**Analysis Batch: 232614**

**Client Sample ID: J6038-T16A-101017**  
**Prep Type: Total/NA**

Surrogate	MS %Recovery	MS Qualifier	Limits
Toluene-d8 (Surr)	122		70 - 130
4-Bromofluorobenzene	95		67 - 130
1,2-Dichloroethane-d4 (Surr)	97		72 - 130

**Lab Sample ID: 720-82491-7 MSD**  
**Matrix: Water**  
**Analysis Batch: 232614**

**Client Sample ID: J6038-T16A-101017**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	0.51		25.0	23.5		ug/L		92	60 - 140	1	20
1,1-Dichloroethane	ND		25.0	25.1		ug/L		98	60 - 140	1	20
Dichlorodifluoromethane	ND		25.0	26.8		ug/L		107	38 - 140	1	20
Vinyl chloride	3.4		25.0	28.5		ug/L		100	58 - 140	4	20
Chloroethane	ND		25.0	25.6		ug/L		102	51 - 140	1	20
Trichlorofluoromethane	ND		25.0	27.2		ug/L		109	60 - 140	1	20
Methylene Chloride	ND		25.0	26.9		ug/L		108	40 - 140	1	20
trans-1,2-Dichloroethene	2.5		25.0	27.9		ug/L		101	60 - 140	1	20
cis-1,2-Dichloroethene	72		25.0	88.3		ug/L		65	60 - 140	8	20
Chloroform	ND		25.0	26.1		ug/L		104	60 - 140	2	20
1,1,1-Trichloroethane	ND		25.0	28.1		ug/L		112	60 - 140	2	20
Carbon tetrachloride	ND		25.0	29.3		ug/L		117	60 - 140	0	20
1,2-Dichloroethane	ND		25.0	26.0		ug/L		104	60 - 140	2	20
Trichloroethene	59		25.0	81.3		ug/L		91	60 - 140	9	20
1,2-Dichloropropane	ND		25.0	25.5		ug/L		102	60 - 140	9	20
Dichlorobromomethane	ND		25.0	28.6		ug/L		114	60 - 140	6	20
trans-1,3-Dichloropropene	ND	F2	25.0	25.8	F2	ug/L		103	60 - 140	22	20
cis-1,3-Dichloropropene	ND		25.0	25.7		ug/L		103	60 - 140	15	20
1,1,2-Trichloroethane	ND	F2	25.0	28.4	F2	ug/L		114	60 - 140	21	20
Tetrachloroethene	1.0		25.0	28.0		ug/L		108	60 - 140	16	20
Chlorodibromomethane	ND		25.0	30.2		ug/L		121	60 - 140	13	20
Chlorobenzene	ND		25.0	26.0		ug/L		104	60 - 140	4	20
Bromoform	ND		25.0	27.5		ug/L		110	56 - 140	5	20
1,1,2,2-Tetrachloroethane	ND		25.0	25.6		ug/L		102	60 - 140	19	20
1,3-Dichlorobenzene	ND		25.0	25.7		ug/L		103	60 - 140	2	20
1,4-Dichlorobenzene	ND		25.0	26.0		ug/L		104	60 - 140	1	20
1,2-Dichlorobenzene	1.2		25.0	29.0		ug/L		111	60 - 140	4	20
Chloromethane	ND		25.0	24.6		ug/L		99	52 - 140	5	20
Bromomethane	ND		25.0	25.4		ug/L		102	23 - 140	3	20
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		25.0	25.8		ug/L		103	60 - 140	2	20
EDB	ND		25.0	30.1		ug/L		120	60 - 140	12	20
1,2,4-Trichlorobenzene	ND		25.0	24.6		ug/L		98	60 - 140	5	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Toluene-d8 (Surr)	101		70 - 130
4-Bromofluorobenzene	93		67 - 130
1,2-Dichloroethane-d4 (Surr)	99		72 - 130

TestAmerica Pleasanton

# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: TRW Microwave

TestAmerica Job ID: 720-82491-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 720-232639/4  
Matrix: Water  
Analysis Batch: 232639

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.50		ug/L			10/24/17 09:33	1
1,1-Dichloroethane	ND		0.50		ug/L			10/24/17 09:33	1
Dichlorodifluoromethane	ND		0.50		ug/L			10/24/17 09:33	1
Vinyl chloride	ND		0.50		ug/L			10/24/17 09:33	1
Chloroethane	ND		1.0		ug/L			10/24/17 09:33	1
Trichlorofluoromethane	ND		1.0		ug/L			10/24/17 09:33	1
Methylene Chloride	ND		5.0		ug/L			10/24/17 09:33	1
trans-1,2-Dichloroethene	ND		0.50		ug/L			10/24/17 09:33	1
cis-1,2-Dichloroethene	ND		0.50		ug/L			10/24/17 09:33	1
Chloroform	ND		1.0		ug/L			10/24/17 09:33	1
1,1,1-Trichloroethane	ND		0.50		ug/L			10/24/17 09:33	1
Carbon tetrachloride	ND		0.50		ug/L			10/24/17 09:33	1
1,2-Dichloroethane	ND		0.50		ug/L			10/24/17 09:33	1
Trichloroethene	ND		0.50		ug/L			10/24/17 09:33	1
1,2-Dichloropropane	ND		0.50		ug/L			10/24/17 09:33	1
Dichlorobromomethane	ND		0.50		ug/L			10/24/17 09:33	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			10/24/17 09:33	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			10/24/17 09:33	1
1,1,2-Trichloroethane	ND		0.50		ug/L			10/24/17 09:33	1
Tetrachloroethene	ND		0.50		ug/L			10/24/17 09:33	1
Chlorodibromomethane	ND		0.50		ug/L			10/24/17 09:33	1
Chlorobenzene	ND		0.50		ug/L			10/24/17 09:33	1
Bromoform	ND		1.0		ug/L			10/24/17 09:33	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			10/24/17 09:33	1
1,3-Dichlorobenzene	ND		0.50		ug/L			10/24/17 09:33	1
1,4-Dichlorobenzene	ND		0.50		ug/L			10/24/17 09:33	1
1,2-Dichlorobenzene	ND		0.50		ug/L			10/24/17 09:33	1
Chloromethane	ND		1.0		ug/L			10/24/17 09:33	1
Bromomethane	ND		1.0		ug/L			10/24/17 09:33	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50		ug/L			10/24/17 09:33	1
EDB	ND		0.50		ug/L			10/24/17 09:33	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			10/24/17 09:33	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	97		70 - 130		10/24/17 09:33	1
4-Bromofluorobenzene	87		67 - 130		10/24/17 09:33	1
1,2-Dichloroethane-d4 (Surr)	95		72 - 130		10/24/17 09:33	1

Lab Sample ID: LCS 720-232639/5  
Matrix: Water  
Analysis Batch: 232639

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	25.0	28.1		ug/L		113	64 - 128
1,1-Dichloroethane	25.0	23.9		ug/L		96	70 - 130
Dichlorodifluoromethane	25.0	25.6		ug/L		102	32 - 158
Vinyl chloride	25.0	26.2		ug/L		105	54 - 135
Chloroethane	25.0	33.1		ug/L		132	62 - 138

TestAmerica Pleasanton

# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: TRW Microwave

TestAmerica Job ID: 720-82491-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 720-232639/5**  
**Matrix: Water**  
**Analysis Batch: 232639**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Trichlorofluoromethane	25.0	33.4	*	ug/L		134	66 - 132
Methylene Chloride	25.0	32.1		ug/L		129	70 - 147
trans-1,2-Dichloroethene	25.0	26.4		ug/L		106	68 - 130
cis-1,2-Dichloroethene	25.0	24.2		ug/L		97	70 - 130
Chloroform	25.0	25.2		ug/L		101	70 - 130
1,1,1-Trichloroethane	25.0	26.9		ug/L		108	70 - 130
Carbon tetrachloride	25.0	27.9		ug/L		112	70 - 146
1,2-Dichloroethane	25.0	25.3		ug/L		101	61 - 132
Trichloroethene	25.0	26.4		ug/L		106	70 - 130
1,2-Dichloropropane	25.0	24.6		ug/L		98	70 - 130
Dichlorobromomethane	25.0	27.3		ug/L		109	70 - 130
trans-1,3-Dichloropropene	25.0	26.1		ug/L		104	70 - 140
cis-1,3-Dichloropropene	25.0	25.7		ug/L		103	70 - 130
1,1,2-Trichloroethane	25.0	27.4		ug/L		110	70 - 130
Tetrachloroethene	25.0	27.4		ug/L		109	70 - 130
Chlorodibromomethane	25.0	28.5		ug/L		114	70 - 145
Chlorobenzene	25.0	26.0		ug/L		104	70 - 130
Bromoform	25.0	28.2		ug/L		113	68 - 136
1,1,2,2-Tetrachloroethane	25.0	25.0		ug/L		100	70 - 130
1,3-Dichlorobenzene	25.0	26.0		ug/L		104	70 - 130
1,4-Dichlorobenzene	25.0	25.9		ug/L		104	70 - 130
1,2-Dichlorobenzene	25.0	25.7		ug/L		103	70 - 130
Chloromethane	25.0	23.4		ug/L		94	52 - 175
Bromomethane	25.0	27.6		ug/L		110	43 - 151
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	29.6		ug/L		118	42 - 162
EDB	25.0	28.2		ug/L		113	70 - 130
1,2,4-Trichlorobenzene	25.0	27.1		ug/L		109	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	100		70 - 130
4-Bromofluorobenzene	97		67 - 130
1,2-Dichloroethane-d4 (Surr)	97		72 - 130

**Lab Sample ID: LCSD 720-232639/6**  
**Matrix: Water**  
**Analysis Batch: 232639**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	25.0	23.1		ug/L		92	64 - 128	20	20
1,1-Dichloroethane	25.0	24.0		ug/L		96	70 - 130	0	20
Dichlorodifluoromethane	25.0	25.8		ug/L		103	32 - 158	1	20
Vinyl chloride	25.0	25.4		ug/L		102	54 - 135	3	20
Chloroethane	25.0	24.3	*	ug/L		97	62 - 138	31	20
Trichlorofluoromethane	25.0	27.3		ug/L		109	66 - 132	20	20
Methylene Chloride	25.0	25.2	*	ug/L		101	70 - 147	24	20
trans-1,2-Dichloroethene	25.0	25.4		ug/L		102	68 - 130	4	20
cis-1,2-Dichloroethene	25.0	23.8		ug/L		95	70 - 130	1	20

TestAmerica Pleasanton

# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: TRW Microwave

TestAmerica Job ID: 720-82491-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 720-232639/6  
Matrix: Water  
Analysis Batch: 232639

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloroform	25.0	25.0		ug/L		100	70 - 130	1	20
1,1,1-Trichloroethane	25.0	26.9		ug/L		107	70 - 130	0	20
Carbon tetrachloride	25.0	28.0		ug/L		112	70 - 146	0	20
1,2-Dichloroethane	25.0	24.2		ug/L		97	61 - 132	4	20
Trichloroethene	25.0	26.6		ug/L		106	70 - 130	0	20
1,2-Dichloropropane	25.0	24.3		ug/L		97	70 - 130	1	20
Dichlorobromomethane	25.0	26.9		ug/L		108	70 - 130	1	20
trans-1,3-Dichloropropene	25.0	26.7		ug/L		107	70 - 140	2	20
cis-1,3-Dichloropropene	25.0	26.9		ug/L		107	70 - 130	4	20
1,1,2-Trichloroethane	25.0	29.2		ug/L		117	70 - 130	6	20
Tetrachloroethene	25.0	28.0		ug/L		112	70 - 130	2	20
Chlorodibromomethane	25.0	29.9		ug/L		120	70 - 145	5	20
Chlorobenzene	25.0	25.7		ug/L		103	70 - 130	1	20
Bromoform	25.0	25.6		ug/L		102	68 - 136	10	20
1,1,2,2-Tetrachloroethane	25.0	19.9	*	ug/L		79	70 - 130	23	20
1,3-Dichlorobenzene	25.0	25.8		ug/L		103	70 - 130	1	20
1,4-Dichlorobenzene	25.0	25.7		ug/L		103	70 - 130	1	20
1,2-Dichlorobenzene	25.0	25.2		ug/L		101	70 - 130	2	20
Chloromethane	25.0	23.8		ug/L		95	52 - 175	1	20
Bromomethane	25.0	25.7		ug/L		103	43 - 151	7	20
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	25.6		ug/L		102	42 - 162	15	20
EDB	25.0	27.0		ug/L		108	70 - 130	4	20
1,2,4-Trichlorobenzene	25.0	22.9		ug/L		92	70 - 130	17	20

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	109		70 - 130
4-Bromofluorobenzene	93		67 - 130
1,2-Dichloroethane-d4 (Surr)	92		72 - 130

# QC Association Summary

Client: AECOM Technical Services Inc.  
Project/Site: TRW Microwave

TestAmerica Job ID: 720-82491-1

## GC/MS VOA

### Analysis Batch: 232554

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-82491-1	TRIPBLANK-J6038-100917	Total/NA	Water	8260B	
720-82491-2	J6038-T11C-100917	Total/NA	Water	8260B	
MB 720-232554/4	Method Blank	Total/NA	Water	8260B	
LCS 720-232554/5	Lab Control Sample	Total/NA	Water	8260B	
LCSD 720-232554/6	Lab Control Sample Dup	Total/NA	Water	8260B	
720-82491-2 MS	J6038-T11C-100917	Total/NA	Water	8260B	
720-82491-2 MSD	J6038-T11C-100917	Total/NA	Water	8260B	

### Analysis Batch: 232614

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-82491-3	J6038-T23B-101017	Total/NA	Water	8260B	
720-82491-4	J6038-T9C-101017	Total/NA	Water	8260B	
720-82491-5	J6038-T9B-101017	Total/NA	Water	8260B	
720-82491-6	J6038-T9A-101017	Total/NA	Water	8260B	
720-82491-7	J6038-T16A-101017	Total/NA	Water	8260B	
720-82491-8	J6038-T10B-101017	Total/NA	Water	8260B	
720-82491-9	J6038-T18B-101017	Total/NA	Water	8260B	
720-82491-11	J6038-T7A-101017-1	Total/NA	Water	8260B	
720-82491-12	J6038-T7A-101017-2	Total/NA	Water	8260B	
MB 720-232614/6	Method Blank	Total/NA	Water	8260B	
LCS 720-232614/3	Lab Control Sample	Total/NA	Water	8260B	
LCSD 720-232614/4	Lab Control Sample Dup	Total/NA	Water	8260B	
720-82491-7 MS	J6038-T16A-101017	Total/NA	Water	8260B	
720-82491-7 MSD	J6038-T16A-101017	Total/NA	Water	8260B	

### Analysis Batch: 232639

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-82491-2	J6038-T11C-100917	Total/NA	Water	8260B	
720-82491-10	J6038-T20B-101017	Total/NA	Water	8260B	
MB 720-232639/4	Method Blank	Total/NA	Water	8260B	
LCS 720-232639/5	Lab Control Sample	Total/NA	Water	8260B	
LCSD 720-232639/6	Lab Control Sample Dup	Total/NA	Water	8260B	

# Lab Chronicle

Client: AECOM Technical Services Inc.  
Project/Site: TRW Microwave

TestAmerica Job ID: 720-82491-1

**Client Sample ID: TRIPBLANK-J6038-100917**

**Lab Sample ID: 720-82491-1**

Date Collected: 10/09/17 07:00

Matrix: Water

Date Received: 10/10/17 17:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	232554	10/23/17 11:54	A1C	TAL PLS

**Client Sample ID: J6038-T11C-100917**

**Lab Sample ID: 720-82491-2**

Date Collected: 10/09/17 14:54

Matrix: Water

Date Received: 10/10/17 17:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	232554	10/23/17 12:24	A1C	TAL PLS
Total/NA	Analysis	8260B		10	232639	10/24/17 13:02	JRM	TAL PLS

**Client Sample ID: J6038-T23B-101017**

**Lab Sample ID: 720-82491-3**

Date Collected: 10/10/17 07:35

Matrix: Water

Date Received: 10/10/17 17:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	232614	10/24/17 05:14	JRM	TAL PLS

**Client Sample ID: J6038-T9C-101017**

**Lab Sample ID: 720-82491-4**

Date Collected: 10/10/17 08:42

Matrix: Water

Date Received: 10/10/17 17:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	232614	10/23/17 21:15	JRM	TAL PLS

**Client Sample ID: J6038-T9B-101017**

**Lab Sample ID: 720-82491-5**

Date Collected: 10/10/17 09:14

Matrix: Water

Date Received: 10/10/17 17:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		2	232614	10/23/17 21:45	JRM	TAL PLS

**Client Sample ID: J6038-T9A-101017**

**Lab Sample ID: 720-82491-6**

Date Collected: 10/10/17 09:53

Matrix: Water

Date Received: 10/10/17 17:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	232614	10/23/17 22:15	JRM	TAL PLS

TestAmerica Pleasanton

# Lab Chronicle

Client: AECOM Technical Services Inc.  
Project/Site: TRW Microwave

TestAmerica Job ID: 720-82491-1

**Client Sample ID: J6038-T16A-101017**

**Lab Sample ID: 720-82491-7**

Date Collected: 10/10/17 10:47

Matrix: Water

Date Received: 10/10/17 17:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	232614	10/23/17 22:45	JRM	TAL PLS

**Client Sample ID: J6038-T10B-101017**

**Lab Sample ID: 720-82491-8**

Date Collected: 10/10/17 11:22

Matrix: Water

Date Received: 10/10/17 17:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	232614	10/23/17 23:15	JRM	TAL PLS

**Client Sample ID: J6038-T18B-101017**

**Lab Sample ID: 720-82491-9**

Date Collected: 10/10/17 13:24

Matrix: Water

Date Received: 10/10/17 17:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	232614	10/23/17 23:45	JRM	TAL PLS

**Client Sample ID: J6038-T20B-101017**

**Lab Sample ID: 720-82491-10**

Date Collected: 10/10/17 13:59

Matrix: Water

Date Received: 10/10/17 17:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		10	232639	10/24/17 12:32	JRM	TAL PLS

**Client Sample ID: J6038-T7A-101017-1**

**Lab Sample ID: 720-82491-11**

Date Collected: 10/10/17 14:48

Matrix: Water

Date Received: 10/10/17 17:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		5	232614	10/24/17 00:15	JRM	TAL PLS

**Client Sample ID: J6038-T7A-101017-2**

**Lab Sample ID: 720-82491-12**

Date Collected: 10/10/17 14:50

Matrix: Water

Date Received: 10/10/17 17:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		5	232614	10/24/17 00:45	JRM	TAL PLS

**Laboratory References:**

TAL PLS = TestAmerica Pleasanton, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919

TestAmerica Pleasanton

# Accreditation/Certification Summary

Client: AECOM Technical Services Inc.  
Project/Site: TRW Microwave

TestAmerica Job ID: 720-82491-1

## Laboratory: TestAmerica Pleasanton

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	2496	01-31-18

Analysis Method	Prep Method	Matrix	Analyte
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# Method Summary

Client: AECOM Technical Services Inc.  
Project/Site: TRW Microwave

TestAmerica Job ID: 720-82491-1

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Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PLS

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**Protocol References:**

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL PLS = TestAmerica Pleasanton, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919



# Sample Summary

Client: AECOM Technical Services Inc.  
Project/Site: TRW Microwave

TestAmerica Job ID: 720-82491-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
720-82491-1	TRIPBLANK-J6038-100917	Water	10/09/17 07:00	10/10/17 17:00
720-82491-2	J6038-T11C-100917	Water	10/09/17 14:54	10/10/17 17:00
720-82491-3	J6038-T23B-101017	Water	10/10/17 07:35	10/10/17 17:00
720-82491-4	J6038-T9C-101017	Water	10/10/17 08:42	10/10/17 17:00
720-82491-5	J6038-T9B-101017	Water	10/10/17 09:14	10/10/17 17:00
720-82491-6	J6038-T9A-101017	Water	10/10/17 09:53	10/10/17 17:00
720-82491-7	J6038-T16A-101017	Water	10/10/17 10:47	10/10/17 17:00
720-82491-8	J6038-T10B-101017	Water	10/10/17 11:22	10/10/17 17:00
720-82491-9	J6038-T18B-101017	Water	10/10/17 13:24	10/10/17 17:00
720-82491-10	J6038-T20B-101017	Water	10/10/17 13:59	10/10/17 17:00
720-82491-11	J6038-T7A-101017-1	Water	10/10/17 14:48	10/10/17 17:00
720-82491-12	J6038-T7A-101017-2	Water	10/10/17 14:50	10/10/17 17:00

TestAmerica Pleasanton

CHAIN OF CUSTODY  
BTS #171069-N/M1

CLIENT  
AECOM  
SITE  
Former TRW Microwave  
825 Stewart Dr., Sunnyvale, CA

MATRIX CONTAINERS

COMPOSITE ALL CONTAINERS  
C's (8260B)

CONDUCT ANALYSIS TO DETECT

LAB # 178917

Test America - SF

DHS #

ALL ANALYSES MUST MEET SPECIFICATIONS AND DETECTION LIMITS SET BY CALIFORNIA DHS AND  
 EPA  
 LIA  
 OTHER  
 RWOCB REGION

SPECIAL INSTRUCTIONS

720-82491

178917

Invoice to: NGC

Attn:

Report to: AECOM - Holly Holbrook

714 589.7215 - Holly.Holbrook@aecom.com

DELINFORMATION STATUS CONDITION LAB SAMPLE #

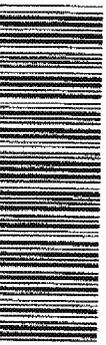
TRIP/Blank	DATE	TIME	SAMPLING	PERFORMED BY	RESULTS NEEDED NO LATER THAN
72038-711C-100917	10-9-17	0700	W	WAS HCL	1
72038-723B-10012	10-10-17	0735	W		2
72038-79C-10017	10-10-17	0842	W		3
72038-79B-10017	10-10-17	0914	W		4
72038-79A-10107	10-10-17	0953	W		5
72038-716A-10107	10-10-17	1047	W		6
72038-710B-10107	10-10-17	1122	W		7
72038-718B-10107	10-10-17	1324	W		8
72038-72C8-10107	10-10-17	1359	W		9
72038-72C8-10107	10-10-17	1500	W	Mark McCauley	10

Standard TAT

RELEASED BY: [Signature] DATE: 10-10-17 TIME: 1500 RECEIVED BY: [Signature] DATE: 10/10/17 TIME: 1500  
 RELEASED BY: [Signature] DATE: 10/10/17 TIME: 1700 RECEIVED BY: [Signature] DATE: 10/11/17 TIME: 1700

SHIPPED VIA

SENT COOLER #



130c



# Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 720-82491-1

**Login Number: 82491**  
**List Number: 1**  
**Creator: Bullock, Tracy**

**List Source: TestAmerica Pleasanton**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

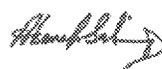
## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.  
TestAmerica Pleasanton  
1220 Quarry Lane  
Pleasanton, CA 94566  
Tel: (925)484-1919

TestAmerica Job ID: 720-82518-1  
Client Project/Site: Former TRW Microwave

For:  
AECOM, Inc.  
999 Town & Country Road  
4th Floor  
Orange, California 92868

Attn: Holly Holbrook



---

Authorized for release by:  
10/19/2017 3:37:14 PM

Afsaneh Salimpour, Senior Project Manager  
(925)484-1919  
afsaneh.salimpour@testamericainc.com

### LINKS

Review your project  
results through  
**Total Access**

Have a Question?

 **Ask  
The  
Expert**

Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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# Definitions/Glossary

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave

TestAmerica Job ID: 720-82518-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

TestAmerica Pleasanton

# Case Narrative

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave

TestAmerica Job ID: 720-82518-1

Job ID: 720-82518-1

Laboratory: TestAmerica Pleasanton

## Narrative

Job Narrative  
720-82518-1

## Comments

No additional comments.

## Receipt

The samples were received on 10/11/2017 6:05 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.5° C.

## Receipt Exceptions

2 of 3 VOAs have headspace for sample T7B-101117-2

## GC/MS VOA

Method(s) 8260B: The following volatile samples was analyzed with significant headspace in the sample Container(s): J6038-T19B-101117 (720-82518-2), J6038-T7B-101117-02 (720-82518-4), J6038-T5B-101117-1 (720-82518-5), J6038-T5B-101117-2 (720-82518-6) and J6038-T8B-101117 (720-82518-8). Significant headspace is defined as a bubble greater than 6 mm in diameter.

Method(s) 8260B: The following volatile sample was analyzed with significant headspace in the sample Container(s): J6038-T7B-101117-01 (720-82518-3). Significant headspace is defined as a bubble greater than 6 mm in diameter.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

# Detection Summary

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave

TestAmerica Job ID: 720-82518-1

Client Sample ID: TRIP BLANK-J6038-101117

Lab Sample ID: 720-82518-1

No Detections.

Client Sample ID: J6038-T19B-101117

Lab Sample ID: 720-82518-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.4		0.50		ug/L	1		8260B	Total/NA
Trichloroethene	62		0.50		ug/L	1		8260B	Total/NA
1,1,2-Trichloro-1,2,2-trifluoroethane	1.1		0.50		ug/L	1		8260B	Total/NA

Client Sample ID: J6038-T7B-101117-01

Lab Sample ID: 720-82518-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethene	0.57		0.50		ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	1.1		0.50		ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	12		0.50		ug/L	1		8260B	Total/NA
Trichloroethene	190		0.50		ug/L	1		8260B	Total/NA
Tetrachloroethene	0.64		0.50		ug/L	1		8260B	Total/NA
1,2-Dichlorobenzene	2.0		0.50		ug/L	1		8260B	Total/NA
1,1,2-Trichloro-1,2,2-trifluoroethane	4.1		0.50		ug/L	1		8260B	Total/NA

Client Sample ID: J6038-T7B-101117-02

Lab Sample ID: 720-82518-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	9.7		5.0		ug/L	10		8260B	Total/NA
Trichloroethene	190		5.0		ug/L	10		8260B	Total/NA

Client Sample ID: J6038-T5B-101117-1

Lab Sample ID: 720-82518-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	54		25		ug/L	50		8260B	Total/NA
Trichloroethene	1500		25		ug/L	50		8260B	Total/NA
1,1,2-Trichloro-1,2,2-trifluoroethane	160		25		ug/L	50		8260B	Total/NA

Client Sample ID: J6038-T5B-101117-2

Lab Sample ID: 720-82518-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	54		50		ug/L	100		8260B	Total/NA
Trichloroethene	1500		50		ug/L	100		8260B	Total/NA
1,1,2-Trichloro-1,2,2-trifluoroethane	170		50		ug/L	100		8260B	Total/NA

Client Sample ID: J6038-T14A-101117

Lab Sample ID: 720-82518-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	20		0.50		ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	2.7		0.50		ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	55		0.50		ug/L	1		8260B	Total/NA
Trichloroethene	55		0.50		ug/L	1		8260B	Total/NA
Tetrachloroethene	1.0		0.50		ug/L	1		8260B	Total/NA
1,2-Dichlorobenzene	2.3		0.50		ug/L	1		8260B	Total/NA

Client Sample ID: J6038-T8B-101117

Lab Sample ID: 720-82518-8

This Detection Summary does not include radiochemical test results.

TestAmerica Pleasanton

# Detection Summary

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave

TestAmerica Job ID: 720-82518-1

Client Sample ID: J6038-T8B-101117 (Continued)

Lab Sample ID: 720-82518-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	27		10		ug/L	20		8260B	Total/NA
cis-1,2-Dichloroethene	420		10		ug/L	20		8260B	Total/NA

Client Sample ID: J6038-T19A-101117

Lab Sample ID: 720-82518-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	17		0.50		ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	2.2		0.50		ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	3.3		0.50		ug/L	1		8260B	Total/NA
1,2-Dichlorobenzene	0.82		0.50		ug/L	1		8260B	Total/NA

Client Sample ID: J6038-T23A-101117

Lab Sample ID: 720-82518-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	8.8	F1	0.50		ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	1.3	F1	0.50		ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	55		0.50		ug/L	1		8260B	Total/NA
Trichloroethene	78		0.50		ug/L	1		8260B	Total/NA
Tetrachloroethene	0.69	F1	0.50		ug/L	1		8260B	Total/NA

Client Sample ID: J6038-T13A-101117

Lab Sample ID: 720-82518-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	11		0.50		ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	3.4		0.50		ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	81		0.50		ug/L	1		8260B	Total/NA
Trichloroethene	41		0.50		ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Pleasanton

# Client Sample Results

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave

TestAmerica Job ID: 720-82518-1

Client Sample ID: TRIP BLANK-J6038-101117

Lab Sample ID: 720-82518-1

Date Collected: 10/11/17 07:00

Matrix: Water

Date Received: 10/11/17 18:05

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.50		ug/L			10/18/17 12:42	1
1,1-Dichloroethane	ND		0.50		ug/L			10/18/17 12:42	1
Dichlorodifluoromethane	ND		0.50		ug/L			10/18/17 12:42	1
Vinyl chloride	ND		0.50		ug/L			10/18/17 12:42	1
Chloroethane	ND		1.0		ug/L			10/18/17 12:42	1
Trichlorofluoromethane	ND		1.0		ug/L			10/18/17 12:42	1
Methylene Chloride	ND		5.0		ug/L			10/18/17 12:42	1
trans-1,2-Dichloroethene	ND		0.50		ug/L			10/18/17 12:42	1
cis-1,2-Dichloroethene	ND		0.50		ug/L			10/18/17 12:42	1
Chloroform	ND		1.0		ug/L			10/18/17 12:42	1
1,1,1-Trichloroethane	ND		0.50		ug/L			10/18/17 12:42	1
Carbon tetrachloride	ND		0.50		ug/L			10/18/17 12:42	1
1,2-Dichloroethane	ND		0.50		ug/L			10/18/17 12:42	1
Trichloroethene	ND		0.50		ug/L			10/18/17 12:42	1
1,2-Dichloropropane	ND		0.50		ug/L			10/18/17 12:42	1
Dichlorobromomethane	ND		0.50		ug/L			10/18/17 12:42	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			10/18/17 12:42	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			10/18/17 12:42	1
1,1,2-Trichloroethane	ND		0.50		ug/L			10/18/17 12:42	1
Tetrachloroethene	ND		0.50		ug/L			10/18/17 12:42	1
Chlorodibromomethane	ND		0.50		ug/L			10/18/17 12:42	1
Chlorobenzene	ND		0.50		ug/L			10/18/17 12:42	1
Bromoform	ND		1.0		ug/L			10/18/17 12:42	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			10/18/17 12:42	1
1,3-Dichlorobenzene	ND		0.50		ug/L			10/18/17 12:42	1
1,4-Dichlorobenzene	ND		0.50		ug/L			10/18/17 12:42	1
1,2-Dichlorobenzene	ND		0.50		ug/L			10/18/17 12:42	1
Chloromethane	ND		1.0		ug/L			10/18/17 12:42	1
Bromomethane	ND		1.0		ug/L			10/18/17 12:42	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50		ug/L			10/18/17 12:42	1
EDB	ND		0.50		ug/L			10/18/17 12:42	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			10/18/17 12:42	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Toluene-d8 (Surr)	98		70 - 130					10/18/17 12:42	1
4-Bromofluorobenzene	94		67 - 130					10/18/17 12:42	1
1,2-Dichloroethane-d4 (Surr)	100		72 - 130					10/18/17 12:42	1

TestAmerica Pleasanton

# Client Sample Results

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave

TestAmerica Job ID: 720-82518-1

Client Sample ID: J6038-T19B-101117

Lab Sample ID: 720-82518-2

Date Collected: 10/11/17 07:52

Matrix: Water

Date Received: 10/11/17 18:05

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.50		ug/L			10/18/17 13:36	1
1,1-Dichloroethane	ND		0.50		ug/L			10/18/17 13:36	1
Dichlorodifluoromethane	ND		0.50		ug/L			10/18/17 13:36	1
Vinyl chloride	ND		0.50		ug/L			10/18/17 13:36	1
Chloroethane	ND		1.0		ug/L			10/18/17 13:36	1
Trichlorofluoromethane	ND		1.0		ug/L			10/18/17 13:36	1
Methylene Chloride	ND		5.0		ug/L			10/18/17 13:36	1
trans-1,2-Dichloroethene	ND		0.50		ug/L			10/18/17 13:36	1
<b>cis-1,2-Dichloroethene</b>	<b>1.4</b>		<b>0.50</b>		<b>ug/L</b>			<b>10/18/17 13:36</b>	<b>1</b>
Chloroform	ND		1.0		ug/L			10/18/17 13:36	1
1,1,1-Trichloroethane	ND		0.50		ug/L			10/18/17 13:36	1
Carbon tetrachloride	ND		0.50		ug/L			10/18/17 13:36	1
1,2-Dichloroethane	ND		0.50		ug/L			10/18/17 13:36	1
<b>Trichloroethene</b>	<b>62</b>		<b>0.50</b>		<b>ug/L</b>			<b>10/18/17 13:36</b>	<b>1</b>
1,2-Dichloropropane	ND		0.50		ug/L			10/18/17 13:36	1
Dichlorobromomethane	ND		0.50		ug/L			10/18/17 13:36	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			10/18/17 13:36	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			10/18/17 13:36	1
1,1,2-Trichloroethane	ND		0.50		ug/L			10/18/17 13:36	1
Tetrachloroethene	ND		0.50		ug/L			10/18/17 13:36	1
Chlorodibromomethane	ND		0.50		ug/L			10/18/17 13:36	1
Chlorobenzene	ND		0.50		ug/L			10/18/17 13:36	1
Bromoform	ND		1.0		ug/L			10/18/17 13:36	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			10/18/17 13:36	1
1,3-Dichlorobenzene	ND		0.50		ug/L			10/18/17 13:36	1
1,4-Dichlorobenzene	ND		0.50		ug/L			10/18/17 13:36	1
1,2-Dichlorobenzene	ND		0.50		ug/L			10/18/17 13:36	1
Chloromethane	ND		1.0		ug/L			10/18/17 13:36	1
Bromomethane	ND		1.0		ug/L			10/18/17 13:36	1
<b>1,1,2-Trichloro-1,2,2-trifluoroethane</b>	<b>1.1</b>		<b>0.50</b>		<b>ug/L</b>			<b>10/18/17 13:36</b>	<b>1</b>
EDB	ND		0.50		ug/L			10/18/17 13:36	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			10/18/17 13:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	97		70 - 130		10/18/17 13:36	1
4-Bromofluorobenzene	87		67 - 130		10/18/17 13:36	1
1,2-Dichloroethane-d4 (Surr)	85		72 - 130		10/18/17 13:36	1

TestAmerica Pleasanton

# Client Sample Results

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave

TestAmerica Job ID: 720-82518-1

Client Sample ID: J6038-T7B-101117-01

Lab Sample ID: 720-82518-3

Date Collected: 10/11/17 08:37

Matrix: Water

Date Received: 10/11/17 18:05

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>1,1-Dichloroethene</b>	<b>0.57</b>		0.50		ug/L			10/19/17 13:04	1
1,1-Dichloroethane	ND		0.50		ug/L			10/19/17 13:04	1
Dichlorodifluoromethane	ND		0.50		ug/L			10/19/17 13:04	1
Vinyl chloride	ND		0.50		ug/L			10/19/17 13:04	1
Chloroethane	ND		1.0		ug/L			10/19/17 13:04	1
Trichlorofluoromethane	ND		1.0		ug/L			10/19/17 13:04	1
Methylene Chloride	ND		5.0		ug/L			10/19/17 13:04	1
<b>trans-1,2-Dichloroethene</b>	<b>1.1</b>		0.50		ug/L			10/19/17 13:04	1
<b>cis-1,2-Dichloroethene</b>	<b>12</b>		0.50		ug/L			10/19/17 13:04	1
Chloroform	ND		1.0		ug/L			10/19/17 13:04	1
1,1,1-Trichloroethane	ND		0.50		ug/L			10/19/17 13:04	1
Carbon tetrachloride	ND		0.50		ug/L			10/19/17 13:04	1
1,2-Dichloroethane	ND		0.50		ug/L			10/19/17 13:04	1
<b>Trichloroethene</b>	<b>190</b>		0.50		ug/L			10/19/17 13:04	1
1,2-Dichloropropane	ND		0.50		ug/L			10/19/17 13:04	1
Dichlorobromomethane	ND		0.50		ug/L			10/19/17 13:04	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			10/19/17 13:04	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			10/19/17 13:04	1
1,1,2-Trichloroethane	ND		0.50		ug/L			10/19/17 13:04	1
<b>Tetrachloroethene</b>	<b>0.64</b>		0.50		ug/L			10/19/17 13:04	1
Chlorodibromomethane	ND		0.50		ug/L			10/19/17 13:04	1
Chlorobenzene	ND		0.50		ug/L			10/19/17 13:04	1
Bromoform	ND		1.0		ug/L			10/19/17 13:04	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			10/19/17 13:04	1
1,3-Dichlorobenzene	ND		0.50		ug/L			10/19/17 13:04	1
1,4-Dichlorobenzene	ND		0.50		ug/L			10/19/17 13:04	1
<b>1,2-Dichlorobenzene</b>	<b>2.0</b>		0.50		ug/L			10/19/17 13:04	1
Chloromethane	ND		1.0		ug/L			10/19/17 13:04	1
Bromomethane	ND		1.0		ug/L			10/19/17 13:04	1
<b>1,1,2-Trichloro-1,2,2-trifluoroethane</b>	<b>4.1</b>		0.50		ug/L			10/19/17 13:04	1
EDB	ND		0.50		ug/L			10/19/17 13:04	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			10/19/17 13:04	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Toluene-d8 (Surr)	99		70 - 130					10/19/17 13:04	1
4-Bromofluorobenzene	93		67 - 130					10/19/17 13:04	1
1,2-Dichloroethane-d4 (Surr)	104		72 - 130					10/19/17 13:04	1

TestAmerica Pleasanton

# Client Sample Results

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave

TestAmerica Job ID: 720-82518-1

Client Sample ID: J6038-T7B-101117-02

Lab Sample ID: 720-82518-4

Date Collected: 10/11/17 08:40

Matrix: Water

Date Received: 10/11/17 18:05

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		5.0		ug/L			10/18/17 14:33	10
1,1-Dichloroethane	ND		5.0		ug/L			10/18/17 14:33	10
Dichlorodifluoromethane	ND		5.0		ug/L			10/18/17 14:33	10
Vinyl chloride	ND		5.0		ug/L			10/18/17 14:33	10
Chloroethane	ND		10		ug/L			10/18/17 14:33	10
Trichlorofluoromethane	ND		10		ug/L			10/18/17 14:33	10
Methylene Chloride	ND		50		ug/L			10/18/17 14:33	10
trans-1,2-Dichloroethene	ND		5.0		ug/L			10/18/17 14:33	10
<b>cis-1,2-Dichloroethene</b>	<b>9.7</b>		5.0		ug/L			10/18/17 14:33	10
Chloroform	ND		10		ug/L			10/18/17 14:33	10
1,1,1-Trichloroethane	ND		5.0		ug/L			10/18/17 14:33	10
Carbon tetrachloride	ND		5.0		ug/L			10/18/17 14:33	10
1,2-Dichloroethane	ND		5.0		ug/L			10/18/17 14:33	10
<b>Trichloroethene</b>	<b>190</b>		5.0		ug/L			10/18/17 14:33	10
1,2-Dichloropropane	ND		5.0		ug/L			10/18/17 14:33	10
Dichlorobromomethane	ND		5.0		ug/L			10/18/17 14:33	10
trans-1,3-Dichloropropene	ND		5.0		ug/L			10/18/17 14:33	10
cis-1,3-Dichloropropene	ND		5.0		ug/L			10/18/17 14:33	10
1,1,2-Trichloroethane	ND		5.0		ug/L			10/18/17 14:33	10
Tetrachloroethene	ND		5.0		ug/L			10/18/17 14:33	10
Chlorodibromomethane	ND		5.0		ug/L			10/18/17 14:33	10
Chlorobenzene	ND		5.0		ug/L			10/18/17 14:33	10
Bromoform	ND		10		ug/L			10/18/17 14:33	10
1,1,2,2-Tetrachloroethane	ND		5.0		ug/L			10/18/17 14:33	10
1,3-Dichlorobenzene	ND		5.0		ug/L			10/18/17 14:33	10
1,4-Dichlorobenzene	ND		5.0		ug/L			10/18/17 14:33	10
1,2-Dichlorobenzene	ND		5.0		ug/L			10/18/17 14:33	10
Chloromethane	ND		10		ug/L			10/18/17 14:33	10
Bromomethane	ND		10		ug/L			10/18/17 14:33	10
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0		ug/L			10/18/17 14:33	10
EDB	ND		5.0		ug/L			10/18/17 14:33	10
1,2,4-Trichlorobenzene	ND		10		ug/L			10/18/17 14:33	10
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
<i>Toluene-d8 (Surr)</i>	95		70 - 130					10/18/17 14:33	10
<i>4-Bromofluorobenzene</i>	86		67 - 130					10/18/17 14:33	10
<i>1,2-Dichloroethane-d4 (Surr)</i>	84		72 - 130					10/18/17 14:33	10

TestAmerica Pleasanton

# Client Sample Results

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave

TestAmerica Job ID: 720-82518-1

Client Sample ID: J6038-T5B-101117-1

Lab Sample ID: 720-82518-5

Date Collected: 10/11/17 09:22

Matrix: Water

Date Received: 10/11/17 18:05

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		25		ug/L			10/18/17 15:07	50
1,1-Dichloroethane	ND		25		ug/L			10/18/17 15:07	50
Dichlorodifluoromethane	ND		25		ug/L			10/18/17 15:07	50
Vinyl chloride	ND		25		ug/L			10/18/17 15:07	50
Chloroethane	ND		50		ug/L			10/18/17 15:07	50
Trichlorofluoromethane	ND		50		ug/L			10/18/17 15:07	50
Methylene Chloride	ND		250		ug/L			10/18/17 15:07	50
trans-1,2-Dichloroethene	ND		25		ug/L			10/18/17 15:07	50
<b>cis-1,2-Dichloroethene</b>	<b>54</b>		25		ug/L			10/18/17 15:07	50
Chloroform	ND		50		ug/L			10/18/17 15:07	50
1,1,1-Trichloroethane	ND		25		ug/L			10/18/17 15:07	50
Carbon tetrachloride	ND		25		ug/L			10/18/17 15:07	50
1,2-Dichloroethane	ND		25		ug/L			10/18/17 15:07	50
<b>Trichloroethene</b>	<b>1500</b>		25		ug/L			10/18/17 15:07	50
1,2-Dichloropropane	ND		25		ug/L			10/18/17 15:07	50
Dichlorobromomethane	ND		25		ug/L			10/18/17 15:07	50
trans-1,3-Dichloropropene	ND		25		ug/L			10/18/17 15:07	50
cis-1,3-Dichloropropene	ND		25		ug/L			10/18/17 15:07	50
1,1,2-Trichloroethane	ND		25		ug/L			10/18/17 15:07	50
Tetrachloroethene	ND		25		ug/L			10/18/17 15:07	50
Chlorodibromomethane	ND		25		ug/L			10/18/17 15:07	50
Chlorobenzene	ND		25		ug/L			10/18/17 15:07	50
Bromoform	ND		50		ug/L			10/18/17 15:07	50
1,1,2,2-Tetrachloroethane	ND		25		ug/L			10/18/17 15:07	50
1,3-Dichlorobenzene	ND		25		ug/L			10/18/17 15:07	50
1,4-Dichlorobenzene	ND		25		ug/L			10/18/17 15:07	50
1,2-Dichlorobenzene	ND		25		ug/L			10/18/17 15:07	50
Chloromethane	ND		50		ug/L			10/18/17 15:07	50
Bromomethane	ND		50		ug/L			10/18/17 15:07	50
<b>1,1,2-Trichloro-1,2,2-trifluoroethane</b>	<b>160</b>		25		ug/L			10/18/17 15:07	50
EDB	ND		25		ug/L			10/18/17 15:07	50
1,2,4-Trichlorobenzene	ND		50		ug/L			10/18/17 15:07	50
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	96		70 - 130					10/18/17 15:07	50
4-Bromofluorobenzene	89		67 - 130					10/18/17 15:07	50
1,2-Dichloroethane-d4 (Surr)	90		72 - 130					10/18/17 15:07	50

TestAmerica Pleasanton

# Client Sample Results

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave

TestAmerica Job ID: 720-82518-1

Client Sample ID: J6038-T5B-101117-2

Lab Sample ID: 720-82518-6

Date Collected: 10/11/17 09:25

Matrix: Water

Date Received: 10/11/17 18:05

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		50		ug/L			10/18/17 15:50	100
1,1-Dichloroethane	ND		50		ug/L			10/18/17 15:50	100
Dichlorodifluoromethane	ND		50		ug/L			10/18/17 15:50	100
Vinyl chloride	ND		50		ug/L			10/18/17 15:50	100
Chloroethane	ND		100		ug/L			10/18/17 15:50	100
Trichlorofluoromethane	ND		100		ug/L			10/18/17 15:50	100
Methylene Chloride	ND		500		ug/L			10/18/17 15:50	100
trans-1,2-Dichloroethene	ND		50		ug/L			10/18/17 15:50	100
<b>cis-1,2-Dichloroethene</b>	<b>54</b>		50		ug/L			10/18/17 15:50	100
Chloroform	ND		100		ug/L			10/18/17 15:50	100
1,1,1-Trichloroethane	ND		50		ug/L			10/18/17 15:50	100
Carbon tetrachloride	ND		50		ug/L			10/18/17 15:50	100
1,2-Dichloroethane	ND		50		ug/L			10/18/17 15:50	100
<b>Trichloroethene</b>	<b>1500</b>		50		ug/L			10/18/17 15:50	100
1,2-Dichloropropane	ND		50		ug/L			10/18/17 15:50	100
Dichlorobromomethane	ND		50		ug/L			10/18/17 15:50	100
trans-1,3-Dichloropropene	ND		50		ug/L			10/18/17 15:50	100
cis-1,3-Dichloropropene	ND		50		ug/L			10/18/17 15:50	100
1,1,2-Trichloroethane	ND		50		ug/L			10/18/17 15:50	100
Tetrachloroethene	ND		50		ug/L			10/18/17 15:50	100
Chlorodibromomethane	ND		50		ug/L			10/18/17 15:50	100
Chlorobenzene	ND		50		ug/L			10/18/17 15:50	100
Bromoform	ND		100		ug/L			10/18/17 15:50	100
1,1,2,2-Tetrachloroethane	ND		50		ug/L			10/18/17 15:50	100
1,3-Dichlorobenzene	ND		50		ug/L			10/18/17 15:50	100
1,4-Dichlorobenzene	ND		50		ug/L			10/18/17 15:50	100
1,2-Dichlorobenzene	ND		50		ug/L			10/18/17 15:50	100
Chloromethane	ND		100		ug/L			10/18/17 15:50	100
Bromomethane	ND		100		ug/L			10/18/17 15:50	100
<b>1,1,2-Trichloro-1,2,2-trifluoroethane</b>	<b>170</b>		50		ug/L			10/18/17 15:50	100
EDB	ND		50		ug/L			10/18/17 15:50	100
1,2,4-Trichlorobenzene	ND		100		ug/L			10/18/17 15:50	100
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	96		70 - 130					10/18/17 15:50	100
4-Bromofluorobenzene	86		67 - 130					10/18/17 15:50	100
1,2-Dichloroethane-d4 (Surr)	85		72 - 130					10/18/17 15:50	100

TestAmerica Pleasanton

# Client Sample Results

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave

TestAmerica Job ID: 720-82518-1

Client Sample ID: J6038-T14A-101117

Lab Sample ID: 720-82518-7

Date Collected: 10/11/17 10:17

Matrix: Water

Date Received: 10/11/17 18:05

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.50		ug/L			10/18/17 16:19	1
1,1-Dichloroethane	ND		0.50		ug/L			10/18/17 16:19	1
Dichlorodifluoromethane	ND		0.50		ug/L			10/18/17 16:19	1
<b>Vinyl chloride</b>	<b>20</b>		0.50		ug/L			10/18/17 16:19	1
Chloroethane	ND		1.0		ug/L			10/18/17 16:19	1
Trichlorofluoromethane	ND		1.0		ug/L			10/18/17 16:19	1
Methylene Chloride	ND		5.0		ug/L			10/18/17 16:19	1
<b>trans-1,2-Dichloroethene</b>	<b>2.7</b>		0.50		ug/L			10/18/17 16:19	1
<b>cis-1,2-Dichloroethene</b>	<b>55</b>		0.50		ug/L			10/18/17 16:19	1
Chloroform	ND		1.0		ug/L			10/18/17 16:19	1
1,1,1-Trichloroethane	ND		0.50		ug/L			10/18/17 16:19	1
Carbon tetrachloride	ND		0.50		ug/L			10/18/17 16:19	1
1,2-Dichloroethane	ND		0.50		ug/L			10/18/17 16:19	1
<b>Trichloroethene</b>	<b>55</b>		0.50		ug/L			10/18/17 16:19	1
1,2-Dichloropropane	ND		0.50		ug/L			10/18/17 16:19	1
Dichlorobromomethane	ND		0.50		ug/L			10/18/17 16:19	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			10/18/17 16:19	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			10/18/17 16:19	1
1,1,2-Trichloroethane	ND		0.50		ug/L			10/18/17 16:19	1
<b>Tetrachloroethene</b>	<b>1.0</b>		0.50		ug/L			10/18/17 16:19	1
Chlorodibromomethane	ND		0.50		ug/L			10/18/17 16:19	1
Chlorobenzene	ND		0.50		ug/L			10/18/17 16:19	1
Bromoform	ND		1.0		ug/L			10/18/17 16:19	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			10/18/17 16:19	1
1,3-Dichlorobenzene	ND		0.50		ug/L			10/18/17 16:19	1
1,4-Dichlorobenzene	ND		0.50		ug/L			10/18/17 16:19	1
<b>1,2-Dichlorobenzene</b>	<b>2.3</b>		0.50		ug/L			10/18/17 16:19	1
Chloromethane	ND		1.0		ug/L			10/18/17 16:19	1
Bromomethane	ND		1.0		ug/L			10/18/17 16:19	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50		ug/L			10/18/17 16:19	1
EDB	ND		0.50		ug/L			10/18/17 16:19	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			10/18/17 16:19	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	94		70 - 130					10/18/17 16:19	1
4-Bromofluorobenzene	85		67 - 130					10/18/17 16:19	1
1,2-Dichloroethane-d4 (Surr)	94		72 - 130					10/18/17 16:19	1

TestAmerica Pleasanton

# Client Sample Results

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave

TestAmerica Job ID: 720-82518-1

Client Sample ID: J6038-T8B-101117

Lab Sample ID: 720-82518-8

Date Collected: 10/11/17 11:02

Matrix: Water

Date Received: 10/11/17 18:05

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		10		ug/L			10/18/17 16:47	20
1,1-Dichloroethane	ND		10		ug/L			10/18/17 16:47	20
Dichlorodifluoromethane	ND		10		ug/L			10/18/17 16:47	20
<b>Vinyl chloride</b>	<b>27</b>		10		ug/L			10/18/17 16:47	20
Chloroethane	ND		20		ug/L			10/18/17 16:47	20
Trichlorofluoromethane	ND		20		ug/L			10/18/17 16:47	20
Methylene Chloride	ND		100		ug/L			10/18/17 16:47	20
trans-1,2-Dichloroethene	ND		10		ug/L			10/18/17 16:47	20
<b>cis-1,2-Dichloroethene</b>	<b>420</b>		10		ug/L			10/18/17 16:47	20
Chloroform	ND		20		ug/L			10/18/17 16:47	20
1,1,1-Trichloroethane	ND		10		ug/L			10/18/17 16:47	20
Carbon tetrachloride	ND		10		ug/L			10/18/17 16:47	20
1,2-Dichloroethane	ND		10		ug/L			10/18/17 16:47	20
Trichloroethene	ND		10		ug/L			10/18/17 16:47	20
1,2-Dichloropropane	ND		10		ug/L			10/18/17 16:47	20
Dichlorobromomethane	ND		10		ug/L			10/18/17 16:47	20
trans-1,3-Dichloropropene	ND		10		ug/L			10/18/17 16:47	20
cis-1,3-Dichloropropene	ND		10		ug/L			10/18/17 16:47	20
1,1,2-Trichloroethane	ND		10		ug/L			10/18/17 16:47	20
Tetrachloroethene	ND		10		ug/L			10/18/17 16:47	20
Chlorodibromomethane	ND		10		ug/L			10/18/17 16:47	20
Chlorobenzene	ND		10		ug/L			10/18/17 16:47	20
Bromoform	ND		20		ug/L			10/18/17 16:47	20
1,1,2,2-Tetrachloroethane	ND		10		ug/L			10/18/17 16:47	20
1,3-Dichlorobenzene	ND		10		ug/L			10/18/17 16:47	20
1,4-Dichlorobenzene	ND		10		ug/L			10/18/17 16:47	20
1,2-Dichlorobenzene	ND		10		ug/L			10/18/17 16:47	20
Chloromethane	ND		20		ug/L			10/18/17 16:47	20
Bromomethane	ND		20		ug/L			10/18/17 16:47	20
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		10		ug/L			10/18/17 16:47	20
EDB	ND		10		ug/L			10/18/17 16:47	20
1,2,4-Trichlorobenzene	ND		20		ug/L			10/18/17 16:47	20
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
<i>Toluene-d8 (Surr)</i>	95		70 - 130					10/18/17 16:47	20
<i>4-Bromofluorobenzene</i>	88		67 - 130					10/18/17 16:47	20
<i>1,2-Dichloroethane-d4 (Surr)</i>	88		72 - 130					10/18/17 16:47	20

TestAmerica Pleasanton

# Client Sample Results

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave

TestAmerica Job ID: 720-82518-1

Client Sample ID: J6038-T19A-101117

Lab Sample ID: 720-82518-9

Date Collected: 10/11/17 12:46

Matrix: Water

Date Received: 10/11/17 18:05

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.50		ug/L			10/18/17 17:16	1
1,1-Dichloroethane	ND		0.50		ug/L			10/18/17 17:16	1
Dichlorodifluoromethane	ND		0.50		ug/L			10/18/17 17:16	1
<b>Vinyl chloride</b>	<b>17</b>		<b>0.50</b>		<b>ug/L</b>			<b>10/18/17 17:16</b>	<b>1</b>
Chloroethane	ND		1.0		ug/L			10/18/17 17:16	1
Trichlorofluoromethane	ND		1.0		ug/L			10/18/17 17:16	1
Methylene Chloride	ND		5.0		ug/L			10/18/17 17:16	1
<b>trans-1,2-Dichloroethene</b>	<b>2.2</b>		<b>0.50</b>		<b>ug/L</b>			<b>10/18/17 17:16</b>	<b>1</b>
<b>cis-1,2-Dichloroethene</b>	<b>3.3</b>		<b>0.50</b>		<b>ug/L</b>			<b>10/18/17 17:16</b>	<b>1</b>
Chloroform	ND		1.0		ug/L			10/18/17 17:16	1
1,1,1-Trichloroethane	ND		0.50		ug/L			10/18/17 17:16	1
Carbon tetrachloride	ND		0.50		ug/L			10/18/17 17:16	1
1,2-Dichloroethane	ND		0.50		ug/L			10/18/17 17:16	1
Trichloroethene	ND		0.50		ug/L			10/18/17 17:16	1
1,2-Dichloropropane	ND		0.50		ug/L			10/18/17 17:16	1
Dichlorobromomethane	ND		0.50		ug/L			10/18/17 17:16	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			10/18/17 17:16	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			10/18/17 17:16	1
1,1,2-Trichloroethane	ND		0.50		ug/L			10/18/17 17:16	1
Tetrachloroethene	ND		0.50		ug/L			10/18/17 17:16	1
Chlorodibromomethane	ND		0.50		ug/L			10/18/17 17:16	1
Chlorobenzene	ND		0.50		ug/L			10/18/17 17:16	1
Bromoform	ND		1.0		ug/L			10/18/17 17:16	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			10/18/17 17:16	1
1,3-Dichlorobenzene	ND		0.50		ug/L			10/18/17 17:16	1
1,4-Dichlorobenzene	ND		0.50		ug/L			10/18/17 17:16	1
<b>1,2-Dichlorobenzene</b>	<b>0.82</b>		<b>0.50</b>		<b>ug/L</b>			<b>10/18/17 17:16</b>	<b>1</b>
Chloromethane	ND		1.0		ug/L			10/18/17 17:16	1
Bromomethane	ND		1.0		ug/L			10/18/17 17:16	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50		ug/L			10/18/17 17:16	1
EDB	ND		0.50		ug/L			10/18/17 17:16	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			10/18/17 17:16	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
<i>Toluene-d8 (Surr)</i>	94		70 - 130					10/18/17 17:16	1
<i>4-Bromofluorobenzene</i>	84		67 - 130					10/18/17 17:16	1
<i>1,2-Dichloroethane-d4 (Surr)</i>	85		72 - 130					10/18/17 17:16	1

TestAmerica Pleasanton

# Client Sample Results

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave

TestAmerica Job ID: 720-82518-1

Client Sample ID: J6038-T23A-101117

Lab Sample ID: 720-82518-10

Date Collected: 10/11/17 13:41

Matrix: Water

Date Received: 10/11/17 18:05

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND	F1 F2	0.50		ug/L			10/18/17 17:44	1
1,1-Dichloroethane	ND		0.50		ug/L			10/18/17 17:44	1
Dichlorodifluoromethane	ND	F1	0.50		ug/L			10/18/17 17:44	1
<b>Vinyl chloride</b>	<b>8.8</b>	<b>F1</b>	<b>0.50</b>		ug/L			10/18/17 17:44	1
Chloroethane	ND		1.0		ug/L			10/18/17 17:44	1
Trichlorofluoromethane	ND	F1	1.0		ug/L			10/18/17 17:44	1
Methylene Chloride	ND		5.0		ug/L			10/18/17 17:44	1
<b>trans-1,2-Dichloroethene</b>	<b>1.3</b>	<b>F1</b>	<b>0.50</b>		ug/L			10/18/17 17:44	1
<b>cis-1,2-Dichloroethene</b>	<b>55</b>		<b>0.50</b>		ug/L			10/18/17 17:44	1
Chloroform	ND		1.0		ug/L			10/18/17 17:44	1
1,1,1-Trichloroethane	ND	F1	0.50		ug/L			10/18/17 17:44	1
Carbon tetrachloride	ND	F1 F2	0.50		ug/L			10/18/17 17:44	1
1,2-Dichloroethane	ND	F2	0.50		ug/L			10/18/17 17:44	1
<b>Trichloroethene</b>	<b>78</b>		<b>0.50</b>		ug/L			10/18/17 17:44	1
1,2-Dichloropropane	ND		0.50		ug/L			10/18/17 17:44	1
Dichlorobromomethane	ND		0.50		ug/L			10/18/17 17:44	1
trans-1,3-Dichloropropene	ND	F2	0.50		ug/L			10/18/17 17:44	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			10/18/17 17:44	1
1,1,2-Trichloroethane	ND	F2	0.50		ug/L			10/18/17 17:44	1
<b>Tetrachloroethene</b>	<b>0.69</b>	<b>F1</b>	<b>0.50</b>		ug/L			10/18/17 17:44	1
Chlorodibromomethane	ND	F2	0.50		ug/L			10/18/17 17:44	1
Chlorobenzene	ND		0.50		ug/L			10/18/17 17:44	1
Bromoform	ND	F2	1.0		ug/L			10/18/17 17:44	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			10/18/17 17:44	1
1,3-Dichlorobenzene	ND		0.50		ug/L			10/18/17 17:44	1
1,4-Dichlorobenzene	ND		0.50		ug/L			10/18/17 17:44	1
1,2-Dichlorobenzene	ND		0.50		ug/L			10/18/17 17:44	1
Chloromethane	ND		1.0		ug/L			10/18/17 17:44	1
Bromomethane	ND		1.0		ug/L			10/18/17 17:44	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	F1 F2	0.50		ug/L			10/18/17 17:44	1
EDB	ND	F2	0.50		ug/L			10/18/17 17:44	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			10/18/17 17:44	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
<i>Toluene-d8 (Surr)</i>	94		70 - 130					10/18/17 17:44	1
<i>4-Bromofluorobenzene</i>	83		67 - 130					10/18/17 17:44	1
<i>1,2-Dichloroethane-d4 (Surr)</i>	90		72 - 130					10/18/17 17:44	1

TestAmerica Pleasanton

# Client Sample Results

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave

TestAmerica Job ID: 720-82518-1

Client Sample ID: J6038-T13A-101117

Lab Sample ID: 720-82518-11

Date Collected: 10/11/17 14:35

Matrix: Water

Date Received: 10/11/17 18:05

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.50		ug/L			10/18/17 05:05	1
1,1-Dichloroethane	ND		0.50		ug/L			10/18/17 05:05	1
Dichlorodifluoromethane	ND		0.50		ug/L			10/18/17 05:05	1
<b>Vinyl chloride</b>	<b>11</b>		<b>0.50</b>		<b>ug/L</b>			<b>10/18/17 05:05</b>	<b>1</b>
Chloroethane	ND		1.0		ug/L			10/18/17 05:05	1
Trichlorofluoromethane	ND		1.0		ug/L			10/18/17 05:05	1
Methylene Chloride	ND		5.0		ug/L			10/18/17 05:05	1
<b>trans-1,2-Dichloroethene</b>	<b>3.4</b>		<b>0.50</b>		<b>ug/L</b>			<b>10/18/17 05:05</b>	<b>1</b>
<b>cis-1,2-Dichloroethene</b>	<b>81</b>		<b>0.50</b>		<b>ug/L</b>			<b>10/18/17 05:05</b>	<b>1</b>
Chloroform	ND		1.0		ug/L			10/18/17 05:05	1
1,1,1-Trichloroethane	ND		0.50		ug/L			10/18/17 05:05	1
Carbon tetrachloride	ND		0.50		ug/L			10/18/17 05:05	1
1,2-Dichloroethane	ND		0.50		ug/L			10/18/17 05:05	1
<b>Trichloroethene</b>	<b>41</b>		<b>0.50</b>		<b>ug/L</b>			<b>10/18/17 05:05</b>	<b>1</b>
1,2-Dichloropropane	ND		0.50		ug/L			10/18/17 05:05	1
Dichlorobromomethane	ND		0.50		ug/L			10/18/17 05:05	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			10/18/17 05:05	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			10/18/17 05:05	1
1,1,2-Trichloroethane	ND		0.50		ug/L			10/18/17 05:05	1
Tetrachloroethene	ND		0.50		ug/L			10/18/17 05:05	1
Chlorodibromomethane	ND		0.50		ug/L			10/18/17 05:05	1
Chlorobenzene	ND		0.50		ug/L			10/18/17 05:05	1
Bromoform	ND		1.0		ug/L			10/18/17 05:05	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			10/18/17 05:05	1
1,3-Dichlorobenzene	ND		0.50		ug/L			10/18/17 05:05	1
1,4-Dichlorobenzene	ND		0.50		ug/L			10/18/17 05:05	1
1,2-Dichlorobenzene	ND		0.50		ug/L			10/18/17 05:05	1
Chloromethane	ND		1.0		ug/L			10/18/17 05:05	1
Bromomethane	ND		1.0		ug/L			10/18/17 05:05	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50		ug/L			10/18/17 05:05	1
EDB	ND		0.50		ug/L			10/18/17 05:05	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			10/18/17 05:05	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
<i>Toluene-d8 (Surr)</i>	99		70 - 130					10/18/17 05:05	1
<i>4-Bromofluorobenzene</i>	93		67 - 130					10/18/17 05:05	1
<i>1,2-Dichloroethane-d4 (Surr)</i>	104		72 - 130					10/18/17 05:05	1

TestAmerica Pleasanton

# Surrogate Summary

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave

TestAmerica Job ID: 720-82518-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		TOL (70-130)	BFB (67-130)	12DCE (72-130)
720-82518-1	TRIP BLANK-J6038-101117	98	94	100
720-82518-2	J6038-T19B-101117	97	87	85
720-82518-3	J6038-T7B-101117-01	99	93	104
720-82518-4	J6038-T7B-101117-02	95	86	84
720-82518-5	J6038-T5B-101117-1	96	89	90
720-82518-6	J6038-T5B-101117-2	96	86	85
720-82518-7	J6038-T14A-101117	94	85	94
720-82518-8	J6038-T8B-101117	95	88	88
720-82518-9	J6038-T19A-101117	94	84	85
720-82518-10	J6038-T23A-101117	94	83	90
720-82518-11	J6038-T13A-101117	99	93	104
LCS 720-232227/5	Lab Control Sample	101	97	101
LCS 720-232310/5	Lab Control Sample	101	99	100
LCS 720-232319/5	Lab Control Sample	98	95	78
LCS 720-232383/5	Lab Control Sample	101	94	98
LCSD 720-232227/6	Lab Control Sample Dup	102	97	97
LCSD 720-232310/6	Lab Control Sample Dup	101	98	103
LCSD 720-232319/6	Lab Control Sample Dup	97	97	84
LCSD 720-232383/6	Lab Control Sample Dup	101	94	97
MB 720-232227/4	Method Blank	99	93	102
MB 720-232310/4	Method Blank	99	95	106
MB 720-232319/4	Method Blank	95	86	84
MB 720-232383/4	Method Blank	99	95	101

**Surrogate Legend**

TOL = Toluene-d8 (Surr)

BFB = 4-Bromofluorobenzene

12DCE = 1,2-Dichloroethane-d4 (Surr)

# QC Sample Results

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave

TestAmerica Job ID: 720-82518-1

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Lab Sample ID: MB 720-232227/4

Matrix: Water

Analysis Batch: 232227

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.50		ug/L			10/17/17 18:35	1
1,1-Dichloroethane	ND		0.50		ug/L			10/17/17 18:35	1
Dichlorodifluoromethane	ND		0.50		ug/L			10/17/17 18:35	1
Vinyl chloride	ND		0.50		ug/L			10/17/17 18:35	1
Chloroethane	ND		1.0		ug/L			10/17/17 18:35	1
Trichlorofluoromethane	ND		1.0		ug/L			10/17/17 18:35	1
Methylene Chloride	ND		5.0		ug/L			10/17/17 18:35	1
trans-1,2-Dichloroethene	ND		0.50		ug/L			10/17/17 18:35	1
cis-1,2-Dichloroethene	ND		0.50		ug/L			10/17/17 18:35	1
Chloroform	ND		1.0		ug/L			10/17/17 18:35	1
1,1,1-Trichloroethane	ND		0.50		ug/L			10/17/17 18:35	1
Carbon tetrachloride	ND		0.50		ug/L			10/17/17 18:35	1
1,2-Dichloroethane	ND		0.50		ug/L			10/17/17 18:35	1
Trichloroethene	ND		0.50		ug/L			10/17/17 18:35	1
1,2-Dichloropropane	ND		0.50		ug/L			10/17/17 18:35	1
Dichlorobromomethane	ND		0.50		ug/L			10/17/17 18:35	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			10/17/17 18:35	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			10/17/17 18:35	1
1,1,2-Trichloroethane	ND		0.50		ug/L			10/17/17 18:35	1
Tetrachloroethene	ND		0.50		ug/L			10/17/17 18:35	1
Chlorodibromomethane	ND		0.50		ug/L			10/17/17 18:35	1
Chlorobenzene	ND		0.50		ug/L			10/17/17 18:35	1
Bromoform	ND		1.0		ug/L			10/17/17 18:35	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			10/17/17 18:35	1
1,3-Dichlorobenzene	ND		0.50		ug/L			10/17/17 18:35	1
1,4-Dichlorobenzene	ND		0.50		ug/L			10/17/17 18:35	1
1,2-Dichlorobenzene	ND		0.50		ug/L			10/17/17 18:35	1
Chloromethane	ND		1.0		ug/L			10/17/17 18:35	1
Bromomethane	ND		1.0		ug/L			10/17/17 18:35	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50		ug/L			10/17/17 18:35	1
EDB	ND		0.50		ug/L			10/17/17 18:35	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			10/17/17 18:35	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	99		70 - 130		10/17/17 18:35	1
4-Bromofluorobenzene	93		67 - 130		10/17/17 18:35	1
1,2-Dichloroethane-d4 (Surr)	102		72 - 130		10/17/17 18:35	1

Lab Sample ID: LCS 720-232227/5

Matrix: Water

Analysis Batch: 232227

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	25.0	23.8		ug/L		95	64 - 128
1,1-Dichloroethane	25.0	26.4		ug/L		106	70 - 130
Dichlorodifluoromethane	25.0	24.5		ug/L		98	32 - 158
Vinyl chloride	25.0	25.1		ug/L		100	54 - 135
Chloroethane	25.0	23.8		ug/L		95	62 - 138

TestAmerica Pleasanton

# QC Sample Results

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave

TestAmerica Job ID: 720-82518-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 720-232227/5

Matrix: Water

Analysis Batch: 232227

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Trichlorofluoromethane	25.0	25.8		ug/L		103	66 - 132
Methylene Chloride	25.0	26.7		ug/L		107	70 - 147
trans-1,2-Dichloroethene	25.0	25.9		ug/L		104	68 - 130
cis-1,2-Dichloroethene	25.0	26.7		ug/L		107	70 - 130
Chloroform	25.0	26.5		ug/L		106	70 - 130
1,1,1-Trichloroethane	25.0	26.9		ug/L		108	70 - 130
Carbon tetrachloride	25.0	27.5		ug/L		110	70 - 146
1,2-Dichloroethane	25.0	27.1		ug/L		108	61 - 132
Trichloroethene	25.0	26.0		ug/L		104	70 - 130
1,2-Dichloropropane	25.0	27.6		ug/L		110	70 - 130
Dichlorobromomethane	25.0	28.5		ug/L		114	70 - 130
trans-1,3-Dichloropropene	25.0	28.3		ug/L		113	70 - 140
cis-1,3-Dichloropropene	25.0	28.6		ug/L		114	70 - 130
1,1,2-Trichloroethane	25.0	28.7		ug/L		115	70 - 130
Tetrachloroethene	25.0	26.3		ug/L		105	70 - 130
Chlorodibromomethane	25.0	28.1		ug/L		112	70 - 145
Chlorobenzene	25.0	26.7		ug/L		107	70 - 130
Bromoform	25.0	26.5		ug/L		106	68 - 136
1,1,2,2-Tetrachloroethane	25.0	27.2		ug/L		109	70 - 130
1,3-Dichlorobenzene	25.0	26.3		ug/L		105	70 - 130
1,4-Dichlorobenzene	25.0	26.1		ug/L		104	70 - 130
1,2-Dichlorobenzene	25.0	26.0		ug/L		104	70 - 130
Chloromethane	25.0	24.3		ug/L		97	52 - 175
Bromomethane	25.0	24.8		ug/L		99	43 - 151
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	24.6		ug/L		98	42 - 162
EDB	25.0	27.9		ug/L		111	70 - 130
1,2,4-Trichlorobenzene	25.0	26.6		ug/L		106	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	101		70 - 130
4-Bromofluorobenzene	97		67 - 130
1,2-Dichloroethane-d4 (Surr)	101		72 - 130

Lab Sample ID: LCSD 720-232227/6

Matrix: Water

Analysis Batch: 232227

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
1,1-Dichloroethene	25.0	24.7		ug/L		99	64 - 128	4	20
1,1-Dichloroethane	25.0	27.2		ug/L		109	70 - 130	3	20
Dichlorodifluoromethane	25.0	25.8		ug/L		103	32 - 158	5	20
Vinyl chloride	25.0	26.4		ug/L		106	54 - 135	5	20
Chloroethane	25.0	25.6		ug/L		102	62 - 138	7	20
Trichlorofluoromethane	25.0	27.0		ug/L		108	66 - 132	5	20
Methylene Chloride	25.0	27.0		ug/L		108	70 - 147	1	20
trans-1,2-Dichloroethene	25.0	27.0		ug/L		108	68 - 130	4	20
cis-1,2-Dichloroethene	25.0	27.2		ug/L		109	70 - 130	2	20

TestAmerica Pleasanton

# QC Sample Results

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave

TestAmerica Job ID: 720-82518-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 720-232227/6

Matrix: Water

Analysis Batch: 232227

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	
								RPD	Limit
Chloroform	25.0	26.9		ug/L		107	70 - 130	1	20
1,1,1-Trichloroethane	25.0	28.2		ug/L		113	70 - 130	5	20
Carbon tetrachloride	25.0	28.8		ug/L		115	70 - 146	5	20
1,2-Dichloroethane	25.0	26.4		ug/L		105	61 - 132	3	20
Trichloroethene	25.0	26.5		ug/L		106	70 - 130	2	20
1,2-Dichloropropane	25.0	27.7		ug/L		111	70 - 130	0	20
Dichlorobromomethane	25.0	28.8		ug/L		115	70 - 130	1	20
trans-1,3-Dichloropropene	25.0	27.8		ug/L		111	70 - 140	2	20
cis-1,3-Dichloropropene	25.0	28.3		ug/L		113	70 - 130	1	20
1,1,2-Trichloroethane	25.0	27.5		ug/L		110	70 - 130	4	20
Tetrachloroethene	25.0	27.2		ug/L		109	70 - 130	3	20
Chlorodibromomethane	25.0	27.1		ug/L		108	70 - 145	4	20
Chlorobenzene	25.0	26.9		ug/L		108	70 - 130	1	20
Bromoform	25.0	25.3		ug/L		101	68 - 136	4	20
1,1,2,2-Tetrachloroethane	25.0	25.7		ug/L		103	70 - 130	6	20
1,3-Dichlorobenzene	25.0	27.0		ug/L		108	70 - 130	3	20
1,4-Dichlorobenzene	25.0	26.9		ug/L		107	70 - 130	3	20
1,2-Dichlorobenzene	25.0	26.3		ug/L		105	70 - 130	1	20
Chloromethane	25.0	25.5		ug/L		102	52 - 175	5	20
Bromomethane	25.0	26.1		ug/L		105	43 - 151	5	20
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	26.3		ug/L		105	42 - 162	6	20
EDB	25.0	26.4		ug/L		106	70 - 130	5	20
1,2,4-Trichlorobenzene	25.0	26.6		ug/L		106	70 - 130	0	20

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	102		70 - 130
4-Bromofluorobenzene	97		67 - 130
1,2-Dichloroethane-d4 (Surr)	97		72 - 130

Lab Sample ID: MB 720-232310/4

Matrix: Water

Analysis Batch: 232310

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1-Dichloroethene	ND		0.50		ug/L			10/18/17 09:12	1
1,1-Dichloroethane	ND		0.50		ug/L			10/18/17 09:12	1
Dichlorodifluoromethane	ND		0.50		ug/L			10/18/17 09:12	1
Vinyl chloride	ND		0.50		ug/L			10/18/17 09:12	1
Chloroethane	ND		1.0		ug/L			10/18/17 09:12	1
Trichlorofluoromethane	ND		1.0		ug/L			10/18/17 09:12	1
Methylene Chloride	ND		5.0		ug/L			10/18/17 09:12	1
trans-1,2-Dichloroethene	ND		0.50		ug/L			10/18/17 09:12	1
cis-1,2-Dichloroethene	ND		0.50		ug/L			10/18/17 09:12	1
Chloroform	ND		1.0		ug/L			10/18/17 09:12	1
1,1,1-Trichloroethane	ND		0.50		ug/L			10/18/17 09:12	1
Carbon tetrachloride	ND		0.50		ug/L			10/18/17 09:12	1
1,2-Dichloroethane	ND		0.50		ug/L			10/18/17 09:12	1

TestAmerica Pleasanton

# QC Sample Results

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave

TestAmerica Job ID: 720-82518-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 720-232310/4

Matrix: Water

Analysis Batch: 232310

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	ND		0.50		ug/L			10/18/17 09:12	1
1,2-Dichloropropane	ND		0.50		ug/L			10/18/17 09:12	1
Dichlorobromomethane	ND		0.50		ug/L			10/18/17 09:12	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			10/18/17 09:12	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			10/18/17 09:12	1
1,1,2-Trichloroethane	ND		0.50		ug/L			10/18/17 09:12	1
Tetrachloroethene	ND		0.50		ug/L			10/18/17 09:12	1
Chlorodibromomethane	ND		0.50		ug/L			10/18/17 09:12	1
Chlorobenzene	ND		0.50		ug/L			10/18/17 09:12	1
Bromoform	ND		1.0		ug/L			10/18/17 09:12	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			10/18/17 09:12	1
1,3-Dichlorobenzene	ND		0.50		ug/L			10/18/17 09:12	1
1,4-Dichlorobenzene	ND		0.50		ug/L			10/18/17 09:12	1
1,2-Dichlorobenzene	ND		0.50		ug/L			10/18/17 09:12	1
Chloromethane	ND		1.0		ug/L			10/18/17 09:12	1
Bromomethane	ND		1.0		ug/L			10/18/17 09:12	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50		ug/L			10/18/17 09:12	1
EDB	ND		0.50		ug/L			10/18/17 09:12	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			10/18/17 09:12	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	99		70 - 130		10/18/17 09:12	1
4-Bromofluorobenzene	95		67 - 130		10/18/17 09:12	1
1,2-Dichloroethane-d4 (Surr)	106		72 - 130		10/18/17 09:12	1

Lab Sample ID: LCS 720-232310/5

Matrix: Water

Analysis Batch: 232310

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	25.0	22.8		ug/L		91	64 - 128
1,1-Dichloroethane	25.0	25.9		ug/L		104	70 - 130
Dichlorodifluoromethane	25.0	24.0		ug/L		96	32 - 158
Vinyl chloride	25.0	25.0		ug/L		100	54 - 135
Chloroethane	25.0	25.1		ug/L		100	62 - 138
Trichlorofluoromethane	25.0	24.9		ug/L		100	66 - 132
Methylene Chloride	25.0	25.7		ug/L		103	70 - 147
trans-1,2-Dichloroethene	25.0	25.1		ug/L		100	68 - 130
cis-1,2-Dichloroethene	25.0	26.1		ug/L		104	70 - 130
Chloroform	25.0	25.8		ug/L		103	70 - 130
1,1,1-Trichloroethane	25.0	26.2		ug/L		105	70 - 130
Carbon tetrachloride	25.0	26.2		ug/L		105	70 - 146
1,2-Dichloroethane	25.0	26.6		ug/L		106	61 - 132
Trichloroethene	25.0	25.2		ug/L		101	70 - 130
1,2-Dichloropropane	25.0	27.1		ug/L		108	70 - 130
Dichlorobromomethane	25.0	28.2		ug/L		113	70 - 130
trans-1,3-Dichloropropene	25.0	27.6		ug/L		110	70 - 140
cis-1,3-Dichloropropene	25.0	27.3		ug/L		109	70 - 130

TestAmerica Pleasanton

# QC Sample Results

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave

TestAmerica Job ID: 720-82518-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 720-232310/5  
Matrix: Water  
Analysis Batch: 232310

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,2-Trichloroethane	25.0	28.0		ug/L		112	70 - 130
Tetrachloroethene	25.0	25.1		ug/L		100	70 - 130
Chlorodibromomethane	25.0	27.1		ug/L		109	70 - 145
Chlorobenzene	25.0	25.8		ug/L		103	70 - 130
Bromoform	25.0	26.1		ug/L		105	68 - 136
1,1,2,2-Tetrachloroethane	25.0	27.7		ug/L		111	70 - 130
1,3-Dichlorobenzene	25.0	25.4		ug/L		102	70 - 130
1,4-Dichlorobenzene	25.0	25.5		ug/L		102	70 - 130
1,2-Dichlorobenzene	25.0	25.4		ug/L		102	70 - 130
Chloromethane	25.0	24.9		ug/L		99	52 - 175
Bromomethane	25.0	24.8		ug/L		99	43 - 151
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	23.5		ug/L		94	42 - 162
EDB	25.0	27.2		ug/L		109	70 - 130
1,2,4-Trichlorobenzene	25.0	26.1		ug/L		104	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	101		70 - 130
4-Bromofluorobenzene	99		67 - 130
1,2-Dichloroethane-d4 (Surr)	100		72 - 130

Lab Sample ID: LCSD 720-232310/6  
Matrix: Water  
Analysis Batch: 232310

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethane	25.0	23.6		ug/L		94	64 - 128	3	20
1,1-Dichloroethane	25.0	26.6		ug/L		106	70 - 130	2	20
Dichlorodifluoromethane	25.0	23.9		ug/L		95	32 - 158	1	20
Vinyl chloride	25.0	26.4		ug/L		106	54 - 135	5	20
Chloroethane	25.0	26.0		ug/L		104	62 - 138	3	20
Trichlorofluoromethane	25.0	25.4		ug/L		102	66 - 132	2	20
Methylene Chloride	25.0	26.3		ug/L		105	70 - 147	2	20
trans-1,2-Dichloroethene	25.0	25.7		ug/L		103	68 - 130	3	20
cis-1,2-Dichloroethene	25.0	26.5		ug/L		106	70 - 130	2	20
Chloroform	25.0	26.2		ug/L		105	70 - 130	2	20
1,1,1-Trichloroethane	25.0	26.8		ug/L		107	70 - 130	2	20
Carbon tetrachloride	25.0	26.9		ug/L		108	70 - 146	3	20
1,2-Dichloroethane	25.0	27.0		ug/L		108	61 - 132	2	20
Trichloroethene	25.0	25.5		ug/L		102	70 - 130	1	20
1,2-Dichloropropane	25.0	27.4		ug/L		110	70 - 130	1	20
Dichlorobromomethane	25.0	28.2		ug/L		113	70 - 130	0	20
trans-1,3-Dichloropropene	25.0	27.9		ug/L		112	70 - 140	1	20
cis-1,3-Dichloropropene	25.0	27.8		ug/L		111	70 - 130	2	20
1,1,2-Trichloroethane	25.0	28.4		ug/L		113	70 - 130	1	20
Tetrachloroethene	25.0	25.6		ug/L		102	70 - 130	2	20
Chlorodibromomethane	25.0	27.7		ug/L		111	70 - 145	2	20
Chlorobenzene	25.0	26.5		ug/L		106	70 - 130	3	20

TestAmerica Pleasanton

# QC Sample Results

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave

TestAmerica Job ID: 720-82518-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 720-232310/6

Matrix: Water

Analysis Batch: 232310

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromoform	25.0	26.7		ug/L		107	68 - 136	2	20
1,1,2,2-Tetrachloroethane	25.0	28.4		ug/L		113	70 - 130	2	20
1,3-Dichlorobenzene	25.0	26.0		ug/L		104	70 - 130	2	20
1,4-Dichlorobenzene	25.0	25.9		ug/L		104	70 - 130	2	20
1,2-Dichlorobenzene	25.0	26.0		ug/L		104	70 - 130	2	20
Chloromethane	25.0	25.3		ug/L		101	52 - 175	2	20
Bromomethane	25.0	25.0		ug/L		100	43 - 151	1	20
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	24.1		ug/L		97	42 - 162	3	20
EDB	25.0	27.7		ug/L		111	70 - 130	2	20
1,2,4-Trichlorobenzene	25.0	26.2		ug/L		105	70 - 130	1	20

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
Toluene-d8 (Surr)	101		70 - 130
4-Bromofluorobenzene	98		67 - 130
1,2-Dichloroethane-d4 (Surr)	103		72 - 130

Lab Sample ID: MB 720-232319/4

Matrix: Water

Analysis Batch: 232319

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.50		ug/L			10/18/17 10:51	1
1,1-Dichloroethane	ND		0.50		ug/L			10/18/17 10:51	1
Dichlorodifluoromethane	ND		0.50		ug/L			10/18/17 10:51	1
Vinyl chloride	ND		0.50		ug/L			10/18/17 10:51	1
Chloroethane	ND		1.0		ug/L			10/18/17 10:51	1
Trichlorofluoromethane	ND		1.0		ug/L			10/18/17 10:51	1
Methylene Chloride	ND		5.0		ug/L			10/18/17 10:51	1
trans-1,2-Dichloroethene	ND		0.50		ug/L			10/18/17 10:51	1
cis-1,2-Dichloroethene	ND		0.50		ug/L			10/18/17 10:51	1
Chloroform	ND		1.0		ug/L			10/18/17 10:51	1
1,1,1-Trichloroethane	ND		0.50		ug/L			10/18/17 10:51	1
Carbon tetrachloride	ND		0.50		ug/L			10/18/17 10:51	1
1,2-Dichloroethane	ND		0.50		ug/L			10/18/17 10:51	1
Trichloroethene	ND		0.50		ug/L			10/18/17 10:51	1
1,2-Dichloropropane	ND		0.50		ug/L			10/18/17 10:51	1
Dichlorobromomethane	ND		0.50		ug/L			10/18/17 10:51	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			10/18/17 10:51	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			10/18/17 10:51	1
1,1,2-Trichloroethane	ND		0.50		ug/L			10/18/17 10:51	1
Tetrachloroethene	ND		0.50		ug/L			10/18/17 10:51	1
Chlorodibromomethane	ND		0.50		ug/L			10/18/17 10:51	1
Chlorobenzene	ND		0.50		ug/L			10/18/17 10:51	1
Bromoform	ND		1.0		ug/L			10/18/17 10:51	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			10/18/17 10:51	1
1,3-Dichlorobenzene	ND		0.50		ug/L			10/18/17 10:51	1
1,4-Dichlorobenzene	ND		0.50		ug/L			10/18/17 10:51	1

TestAmerica Pleasanton

# QC Sample Results

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave

TestAmerica Job ID: 720-82518-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 720-232319/4

Matrix: Water

Analysis Batch: 232319

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	ND		0.50		ug/L			10/18/17 10:51	1
Chloromethane	ND		1.0		ug/L			10/18/17 10:51	1
Bromomethane	ND		1.0		ug/L			10/18/17 10:51	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50		ug/L			10/18/17 10:51	1
EDB	ND		0.50		ug/L			10/18/17 10:51	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			10/18/17 10:51	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	95		70 - 130		10/18/17 10:51	1
4-Bromofluorobenzene	86		67 - 130		10/18/17 10:51	1
1,2-Dichloroethane-d4 (Surr)	84		72 - 130		10/18/17 10:51	1

Lab Sample ID: LCS 720-232319/5

Matrix: Water

Analysis Batch: 232319

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	25.0	28.6		ug/L		114	64 - 128
1,1-Dichloroethane	25.0	27.3		ug/L		109	70 - 130
Dichlorodifluoromethane	25.0	32.7		ug/L		131	32 - 158
Vinyl chloride	25.0	30.5		ug/L		122	54 - 135
Chloroethane	25.0	28.7		ug/L		115	62 - 138
Trichlorofluoromethane	25.0	31.0		ug/L		124	66 - 132
Methylene Chloride	25.0	22.8		ug/L		91	70 - 147
trans-1,2-Dichloroethene	25.0	29.4		ug/L		118	68 - 130
cis-1,2-Dichloroethene	25.0	26.2		ug/L		105	70 - 130
Chloroform	25.0	26.1		ug/L		104	70 - 130
1,1,1-Trichloroethane	25.0	29.3		ug/L		117	70 - 130
Carbon tetrachloride	25.0	29.4		ug/L		118	70 - 146
1,2-Dichloroethane	25.0	22.5		ug/L		90	61 - 132
Trichloroethene	25.0	28.8		ug/L		115	70 - 130
1,2-Dichloropropane	25.0	25.7		ug/L		103	70 - 130
Dichlorobromomethane	25.0	24.5		ug/L		98	70 - 130
trans-1,3-Dichloropropene	25.0	19.9		ug/L		80	70 - 140
cis-1,3-Dichloropropene	25.0	22.6		ug/L		91	70 - 130
1,1,2-Trichloroethane	25.0	23.1		ug/L		92	70 - 130
Tetrachloroethene	25.0	30.4		ug/L		122	70 - 130
Chlorodibromomethane	25.0	19.2		ug/L		77	70 - 145
Chlorobenzene	25.0	27.2		ug/L		109	70 - 130
Bromoform	25.0	18.7		ug/L		75	68 - 136
1,1,2,2-Tetrachloroethane	25.0	20.7		ug/L		83	70 - 130
1,3-Dichlorobenzene	25.0	27.4		ug/L		109	70 - 130
1,4-Dichlorobenzene	25.0	27.0		ug/L		108	70 - 130
1,2-Dichlorobenzene	25.0	25.9		ug/L		104	70 - 130
Chloromethane	25.0	30.1		ug/L		120	52 - 175
Bromomethane	25.0	28.3		ug/L		113	43 - 151
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	30.3		ug/L		121	42 - 162

TestAmerica Pleasanton

# QC Sample Results

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave

TestAmerica Job ID: 720-82518-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 720-232319/5

Matrix: Water

Analysis Batch: 232319

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
EDB	25.0	20.6		ug/L		82	70 - 130
1,2,4-Trichlorobenzene	25.0	26.6		ug/L		106	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	98		70 - 130
4-Bromofluorobenzene	95		67 - 130
1,2-Dichloroethane-d4 (Surr)	78		72 - 130

Lab Sample ID: LCSD 720-232319/6

Matrix: Water

Analysis Batch: 232319

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	25.0	28.7		ug/L		115	64 - 128	0	20
1,1-Dichloroethane	25.0	27.1		ug/L		108	70 - 130	1	20
Dichlorodifluoromethane	25.0	32.2		ug/L		129	32 - 158	2	20
Vinyl chloride	25.0	31.3		ug/L		125	54 - 135	3	20
Chloroethane	25.0	28.5		ug/L		114	62 - 138	1	20
Trichlorofluoromethane	25.0	31.3		ug/L		125	66 - 132	1	20
Methylene Chloride	25.0	23.2		ug/L		93	70 - 147	2	20
trans-1,2-Dichloroethene	25.0	29.3		ug/L		117	68 - 130	1	20
cis-1,2-Dichloroethene	25.0	26.2		ug/L		105	70 - 130	0	20
Chloroform	25.0	26.0		ug/L		104	70 - 130	0	20
1,1,1-Trichloroethane	25.0	28.8		ug/L		115	70 - 130	2	20
Carbon tetrachloride	25.0	29.4		ug/L		117	70 - 146	0	20
1,2-Dichloroethane	25.0	23.5		ug/L		94	61 - 132	4	20
Trichloroethene	25.0	28.4		ug/L		114	70 - 130	1	20
1,2-Dichloropropane	25.0	26.1		ug/L		104	70 - 130	2	20
Dichlorobromomethane	25.0	25.2		ug/L		101	70 - 130	3	20
trans-1,3-Dichloropropene	25.0	21.2		ug/L		85	70 - 140	6	20
cis-1,3-Dichloropropene	25.0	23.5		ug/L		94	70 - 130	4	20
1,1,2-Trichloroethane	25.0	24.7		ug/L		99	70 - 130	7	20
Tetrachloroethene	25.0	29.5		ug/L		118	70 - 130	3	20
Chlorodibromomethane	25.0	20.8		ug/L		83	70 - 145	8	20
Chlorobenzene	25.0	27.1		ug/L		108	70 - 130	1	20
Bromoform	25.0	21.0		ug/L		84	68 - 136	11	20
1,1,2,2-Tetrachloroethane	25.0	23.5		ug/L		94	70 - 130	13	20
1,3-Dichlorobenzene	25.0	27.3		ug/L		109	70 - 130	0	20
1,4-Dichlorobenzene	25.0	27.2		ug/L		109	70 - 130	1	20
1,2-Dichlorobenzene	25.0	26.3		ug/L		105	70 - 130	1	20
Chloromethane	25.0	30.0		ug/L		120	52 - 175	1	20
Bromomethane	25.0	28.7		ug/L		115	43 - 151	2	20
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	29.8		ug/L		119	42 - 162	2	20
EDB	25.0	22.3		ug/L		89	70 - 130	8	20
1,2,4-Trichlorobenzene	25.0	27.4		ug/L		110	70 - 130	3	20

TestAmerica Pleasanton

# QC Sample Results

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave

TestAmerica Job ID: 720-82518-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 720-232319/6  
Matrix: Water  
Analysis Batch: 232319

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	97		70 - 130
4-Bromofluorobenzene	97		67 - 130
1,2-Dichloroethane-d4 (Surr)	84		72 - 130

Lab Sample ID: MB 720-232383/4  
Matrix: Water  
Analysis Batch: 232383

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1-Dichloroethene	ND		0.50		ug/L			10/19/17 09:35	1
1,1-Dichloroethane	ND		0.50		ug/L			10/19/17 09:35	1
Dichlorodifluoromethane	ND		0.50		ug/L			10/19/17 09:35	1
Vinyl chloride	ND		0.50		ug/L			10/19/17 09:35	1
Chloroethane	ND		1.0		ug/L			10/19/17 09:35	1
Trichlorofluoromethane	ND		1.0		ug/L			10/19/17 09:35	1
Methylene Chloride	ND		5.0		ug/L			10/19/17 09:35	1
trans-1,2-Dichloroethene	ND		0.50		ug/L			10/19/17 09:35	1
cis-1,2-Dichloroethene	ND		0.50		ug/L			10/19/17 09:35	1
Chloroform	ND		1.0		ug/L			10/19/17 09:35	1
1,1,1-Trichloroethane	ND		0.50		ug/L			10/19/17 09:35	1
Carbon tetrachloride	ND		0.50		ug/L			10/19/17 09:35	1
1,2-Dichloroethane	ND		0.50		ug/L			10/19/17 09:35	1
Trichloroethene	ND		0.50		ug/L			10/19/17 09:35	1
1,2-Dichloropropane	ND		0.50		ug/L			10/19/17 09:35	1
Dichlorobromomethane	ND		0.50		ug/L			10/19/17 09:35	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			10/19/17 09:35	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			10/19/17 09:35	1
1,1,2-Trichloroethane	ND		0.50		ug/L			10/19/17 09:35	1
Tetrachloroethene	ND		0.50		ug/L			10/19/17 09:35	1
Chlorodibromomethane	ND		0.50		ug/L			10/19/17 09:35	1
Chlorobenzene	ND		0.50		ug/L			10/19/17 09:35	1
Bromoform	ND		1.0		ug/L			10/19/17 09:35	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			10/19/17 09:35	1
1,3-Dichlorobenzene	ND		0.50		ug/L			10/19/17 09:35	1
1,4-Dichlorobenzene	ND		0.50		ug/L			10/19/17 09:35	1
1,2-Dichlorobenzene	ND		0.50		ug/L			10/19/17 09:35	1
Chloromethane	ND		1.0		ug/L			10/19/17 09:35	1
Bromomethane	ND		1.0		ug/L			10/19/17 09:35	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50		ug/L			10/19/17 09:35	1
EDB	ND		0.50		ug/L			10/19/17 09:35	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			10/19/17 09:35	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Toluene-d8 (Surr)	99		70 - 130		10/19/17 09:35	1
4-Bromofluorobenzene	95		67 - 130		10/19/17 09:35	1
1,2-Dichloroethane-d4 (Surr)	101		72 - 130		10/19/17 09:35	1

TestAmerica Pleasanton

# QC Sample Results

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave

TestAmerica Job ID: 720-82518-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 720-232383/5

Matrix: Water

Analysis Batch: 232383

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	25.0	23.5		ug/L		94	64 - 128
1,1-Dichloroethane	25.0	26.3		ug/L		105	70 - 130
Dichlorodifluoromethane	25.0	22.8		ug/L		91	32 - 158
Vinyl chloride	25.0	26.4		ug/L		106	54 - 135
Chloroethane	25.0	25.4		ug/L		102	62 - 138
Trichlorofluoromethane	25.0	25.0		ug/L		100	66 - 132
Methylene Chloride	25.0	26.2		ug/L		105	70 - 147
trans-1,2-Dichloroethene	25.0	25.7		ug/L		103	68 - 130
cis-1,2-Dichloroethene	25.0	26.2		ug/L		105	70 - 130
Chloroform	25.0	25.9		ug/L		103	70 - 130
1,1,1-Trichloroethane	25.0	26.9		ug/L		108	70 - 130
Carbon tetrachloride	25.0	27.1		ug/L		108	70 - 146
1,2-Dichloroethane	25.0	26.2		ug/L		105	61 - 132
Trichloroethene	25.0	25.6		ug/L		102	70 - 130
1,2-Dichloropropane	25.0	27.0		ug/L		108	70 - 130
Dichlorobromomethane	25.0	27.7		ug/L		111	70 - 130
trans-1,3-Dichloropropene	25.0	27.3		ug/L		109	70 - 140
cis-1,3-Dichloropropene	25.0	27.6		ug/L		110	70 - 130
1,1,2-Trichloroethane	25.0	28.0		ug/L		112	70 - 130
Tetrachloroethene	25.0	25.4		ug/L		102	70 - 130
Chlorodibromomethane	25.0	26.9		ug/L		108	70 - 145
Chlorobenzene	25.0	26.4		ug/L		106	70 - 130
Bromoform	25.0	25.9		ug/L		104	68 - 136
1,1,2,2-Tetrachloroethane	25.0	29.1		ug/L		116	70 - 130
1,3-Dichlorobenzene	25.0	26.1		ug/L		104	70 - 130
1,4-Dichlorobenzene	25.0	26.1		ug/L		104	70 - 130
1,2-Dichlorobenzene	25.0	25.8		ug/L		103	70 - 130
Chloromethane	25.0	25.3		ug/L		101	52 - 175
Bromomethane	25.0	24.6		ug/L		98	43 - 151
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	24.1		ug/L		97	42 - 162
EDB	25.0	27.3		ug/L		109	70 - 130
1,2,4-Trichlorobenzene	25.0	26.9		ug/L		108	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	101		70 - 130
4-Bromofluorobenzene	94		67 - 130
1,2-Dichloroethane-d4 (Surr)	98		72 - 130

Lab Sample ID: LCSD 720-232383/6

Matrix: Water

Analysis Batch: 232383

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	25.0	24.0		ug/L		96	64 - 128	2	20
1,1-Dichloroethane	25.0	26.6		ug/L		106	70 - 130	1	20
Dichlorodifluoromethane	25.0	21.9		ug/L		88	32 - 158	4	20
Vinyl chloride	25.0	25.7		ug/L		103	54 - 135	3	20

TestAmerica Pleasanton

# QC Sample Results

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave

TestAmerica Job ID: 720-82518-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 720-232383/6  
Matrix: Water  
Analysis Batch: 232383

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloroethane	25.0	24.9		ug/L		100	62 - 138	2	20
Trichlorofluoromethane	25.0	25.4		ug/L		102	66 - 132	1	20
Methylene Chloride	25.0	26.2		ug/L		105	70 - 147	0	20
trans-1,2-Dichloroethene	25.0	26.0		ug/L		104	68 - 130	1	20
cis-1,2-Dichloroethene	25.0	26.7		ug/L		107	70 - 130	2	20
Chloroform	25.0	26.2		ug/L		105	70 - 130	1	20
1,1,1-Trichloroethane	25.0	27.6		ug/L		110	70 - 130	2	20
Carbon tetrachloride	25.0	27.7		ug/L		111	70 - 146	2	20
1,2-Dichloroethane	25.0	25.9		ug/L		104	61 - 132	1	20
Trichloroethene	25.0	25.9		ug/L		104	70 - 130	1	20
1,2-Dichloropropane	25.0	26.9		ug/L		107	70 - 130	0	20
Dichlorobromomethane	25.0	28.0		ug/L		112	70 - 130	1	20
trans-1,3-Dichloropropene	25.0	26.8		ug/L		107	70 - 140	2	20
cis-1,3-Dichloropropene	25.0	27.1		ug/L		108	70 - 130	2	20
1,1,2-Trichloroethane	25.0	27.0		ug/L		108	70 - 130	4	20
Tetrachloroethene	25.0	26.6		ug/L		107	70 - 130	5	20
Chlorodibromomethane	25.0	26.4		ug/L		106	70 - 145	2	20
Chlorobenzene	25.0	26.4		ug/L		106	70 - 130	0	20
Bromoform	25.0	24.6		ug/L		98	68 - 136	5	20
1,1,2,2-Tetrachloroethane	25.0	27.6		ug/L		110	70 - 130	5	20
1,3-Dichlorobenzene	25.0	26.2		ug/L		105	70 - 130	0	20
1,4-Dichlorobenzene	25.0	26.1		ug/L		104	70 - 130	0	20
1,2-Dichlorobenzene	25.0	26.0		ug/L		104	70 - 130	1	20
Chloromethane	25.0	24.5		ug/L		98	52 - 175	3	20
Bromomethane	25.0	25.0		ug/L		100	43 - 151	1	20
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	24.8		ug/L		99	42 - 162	3	20
EDB	25.0	26.9		ug/L		108	70 - 130	2	20
1,2,4-Trichlorobenzene	25.0	26.4		ug/L		106	70 - 130	2	20

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	101		70 - 130
4-Bromofluorobenzene	94		67 - 130
1,2-Dichloroethane-d4 (Surr)	97		72 - 130

TestAmerica Pleasanton

# QC Association Summary

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave

TestAmerica Job ID: 720-82518-1

## GC/MS VOA

### Analysis Batch: 232227

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-82518-11	J6038-T13A-101117	Total/NA	Water	8260B	
MB 720-232227/4	Method Blank	Total/NA	Water	8260B	
LCS 720-232227/5	Lab Control Sample	Total/NA	Water	8260B	
LCSD 720-232227/6	Lab Control Sample Dup	Total/NA	Water	8260B	

### Analysis Batch: 232310

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-82518-1	TRIP BLANK-J6038-101117	Total/NA	Water	8260B	
MB 720-232310/4	Method Blank	Total/NA	Water	8260B	
LCS 720-232310/5	Lab Control Sample	Total/NA	Water	8260B	
LCSD 720-232310/6	Lab Control Sample Dup	Total/NA	Water	8260B	

### Analysis Batch: 232319

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-82518-2	J6038-T19B-101117	Total/NA	Water	8260B	
720-82518-4	J6038-T7B-101117-02	Total/NA	Water	8260B	
720-82518-5	J6038-T5B-101117-1	Total/NA	Water	8260B	
720-82518-6	J6038-T5B-101117-2	Total/NA	Water	8260B	
720-82518-7	J6038-T14A-101117	Total/NA	Water	8260B	
720-82518-8	J6038-T8B-101117	Total/NA	Water	8260B	
720-82518-9	J6038-T19A-101117	Total/NA	Water	8260B	
720-82518-10	J6038-T23A-101117	Total/NA	Water	8260B	
MB 720-232319/4	Method Blank	Total/NA	Water	8260B	
LCS 720-232319/5	Lab Control Sample	Total/NA	Water	8260B	
LCSD 720-232319/6	Lab Control Sample Dup	Total/NA	Water	8260B	

### Analysis Batch: 232383

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-82518-3	J6038-T7B-101117-01	Total/NA	Water	8260B	
MB 720-232383/4	Method Blank	Total/NA	Water	8260B	
LCS 720-232383/5	Lab Control Sample	Total/NA	Water	8260B	
LCSD 720-232383/6	Lab Control Sample Dup	Total/NA	Water	8260B	

# Lab Chronicle

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave

TestAmerica Job ID: 720-82518-1

Client Sample ID: TRIP BLANK-J6038-101117

Lab Sample ID: 720-82518-1

Date Collected: 10/11/17 07:00

Matrix: Water

Date Received: 10/11/17 18:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	232310	10/18/17 12:42	JRM	TAL PLS

Client Sample ID: J6038-T19B-101117

Lab Sample ID: 720-82518-2

Date Collected: 10/11/17 07:52

Matrix: Water

Date Received: 10/11/17 18:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	232319	10/18/17 13:36	A1C	TAL PLS

Client Sample ID: J6038-T7B-101117-01

Lab Sample ID: 720-82518-3

Date Collected: 10/11/17 08:37

Matrix: Water

Date Received: 10/11/17 18:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	232383	10/19/17 13:04	JRM	TAL PLS

Client Sample ID: J6038-T7B-101117-02

Lab Sample ID: 720-82518-4

Date Collected: 10/11/17 08:40

Matrix: Water

Date Received: 10/11/17 18:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		10	232319	10/18/17 14:33	A1C	TAL PLS

Client Sample ID: J6038-T5B-101117-1

Lab Sample ID: 720-82518-5

Date Collected: 10/11/17 09:22

Matrix: Water

Date Received: 10/11/17 18:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		50	232319	10/18/17 15:07	A1C	TAL PLS

Client Sample ID: J6038-T5B-101117-2

Lab Sample ID: 720-82518-6

Date Collected: 10/11/17 09:25

Matrix: Water

Date Received: 10/11/17 18:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		100	232319	10/18/17 15:50	A1C	TAL PLS

TestAmerica Pleasanton

# Lab Chronicle

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave

TestAmerica Job ID: 720-82518-1

Client Sample ID: J6038-T14A-101117

Lab Sample ID: 720-82518-7

Date Collected: 10/11/17 10:17

Matrix: Water

Date Received: 10/11/17 18:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	232319	10/18/17 16:19	A1C	TAL PLS

Client Sample ID: J6038-T8B-101117

Lab Sample ID: 720-82518-8

Date Collected: 10/11/17 11:02

Matrix: Water

Date Received: 10/11/17 18:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		20	232319	10/18/17 16:47	A1C	TAL PLS

Client Sample ID: J6038-T19A-101117

Lab Sample ID: 720-82518-9

Date Collected: 10/11/17 12:46

Matrix: Water

Date Received: 10/11/17 18:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	232319	10/18/17 17:16	A1C	TAL PLS

Client Sample ID: J6038-T23A-101117

Lab Sample ID: 720-82518-10

Date Collected: 10/11/17 13:41

Matrix: Water

Date Received: 10/11/17 18:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	232319	10/18/17 17:44	A1C	TAL PLS

Client Sample ID: J6038-T13A-101117

Lab Sample ID: 720-82518-11

Date Collected: 10/11/17 14:35

Matrix: Water

Date Received: 10/11/17 18:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	232227	10/18/17 05:05	BAJ	TAL PLS

**Laboratory References:**

TAL PLS = TestAmerica Pleasanton, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919

TestAmerica Pleasanton

# Accreditation/Certification Summary

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave

TestAmerica Job ID: 720-82518-1

## Laboratory: TestAmerica Pleasanton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	2496	01-31-18

# Method Summary

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave

TestAmerica Job ID: 720-82518-1

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Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PLS

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**Protocol References:**

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL PLS = TestAmerica Pleasanton, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919



# Sample Summary

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave

TestAmerica Job ID: 720-82518-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
720-82518-1	TRIP BLANK-J6038-101117	Water	10/11/17 07:00	10/11/17 18:05
720-82518-2	J6038-T19B-101117	Water	10/11/17 07:52	10/11/17 18:05
720-82518-3	J6038-T7B-101117-01	Water	10/11/17 08:37	10/11/17 18:05
720-82518-4	J6038-T7B-101117-02	Water	10/11/17 08:40	10/11/17 18:05
720-82518-5	J6038-T5B-101117-1	Water	10/11/17 09:22	10/11/17 18:05
720-82518-6	J6038-T5B-101117-2	Water	10/11/17 09:25	10/11/17 18:05
720-82518-7	J6038-T14A-101117	Water	10/11/17 10:17	10/11/17 18:05
720-82518-8	J6038-T8B-101117	Water	10/11/17 11:02	10/11/17 18:05
720-82518-9	J6038-T19A-101117	Water	10/11/17 12:46	10/11/17 18:05
720-82518-10	J6038-T23A-101117	Water	10/11/17 13:41	10/11/17 18:05
720-82518-11	J6038-T13A-101117	Water	10/11/17 14:35	10/11/17 18:05

TestAmerica Pleasanton

**DLA**  
TECH SERVICES, INC.

1680 ROGERS AVENUE  
FAX (408) 573-7771  
PHONE (408) 573-0555

CHAIN OF CUSTODY  
BTS # 171669-M/M/1

CLIENT  
AECOM

SITE  
Former TRW Microwave

825 Stewart Dr., Sunnyvale, CA

MATRIX CONTAINERS

POSITIVE ALL CONTAINERS

CONDUCT ANALYSIS TO DETECT

720-B-2518

LAB

Test America - SF

DHS #

LIMITS SET BY CALIFORNIA DHS AND  
 EPA  
 LIA  
 OTHER

RWOCB REGION

SPECIAL INSTRUCTIONS

Invoice to: NGC

Attn:

AECOM - Holly Holbrook

178941

TRIP/BANK	DATE	TIME	SAMPLING	PERFORMED BY	DATE	TIME	RECEIVED BY	DATE	TIME
TRIP BANK - 5603E-160117	10-11-17	0706	W	NEAS HEL					
603E-T19B-160117		0756	W						1
603E-T17B-160117-01		0837	W						2
603E-T17B-160117-02		0846	W						3
603E-T5B-160117-1		0922	W						4
603E-T5B-160117-2		0925	W						5
603E-T19A-160117		1017	W						6
603E-T8B-160117		1102	W						7
603E-T19A-160117		1246	W						8
603E-T23A-160117		1341	W						9
SAMPLING COMPLETED	10-11-17	1455		MARK McE/loch					10

Standard TAT

RESULTS NEEDED  
NO LATER THAN

RELEASED BY: [Signature] DATE: 10-11-17 TIME: 1305 RECEIVED BY: [Signature] DATE: 10/11/17 TIME: 2:54  
 RELEASED BY: [Signature] DATE: 10-11-17 TIME: 1805 RECEIVED BY: [Signature] DATE: 10/11/17 TIME: 1805

SHIPPED VIA



DATE SENT

TIME SENT

COOLER #

1150

720-82518 Chain of Custody



## Login Sample Receipt Checklist

Client: AECOM, Inc.

Job Number: 720-82518-1

**Login Number: 82518**

**List Source: TestAmerica Pleasanton**

**List Number: 1**

**Creator: Bullock, Tracy**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	False	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

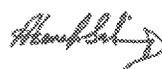
## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.  
TestAmerica Pleasanton  
1220 Quarry Lane  
Pleasanton, CA 94566  
Tel: (925)484-1919

TestAmerica Job ID: 720-82540-1  
Client Project/Site: Former TRW Microwave

For:  
AECOM, Inc.  
999 Town & Country Road  
4th Floor  
Orange, California 92868

Attn: Holly Holbrook



---

Authorized for release by:  
10/19/2017 3:53:37 PM

Afsaneh Salimpour, Senior Project Manager  
(925)484-1919  
afsaneh.salimpour@testamericainc.com

### LINKS

Review your project  
results through  
**Total Access**

Have a Question?

 **Ask  
The  
Expert**

Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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## Definitions/Glossary

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave

TestAmerica Job ID: 720-82540-1

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Case Narrative

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave

TestAmerica Job ID: 720-82540-1

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**Job ID: 720-82540-1**

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**Laboratory: TestAmerica Pleasanton**

**Narrative**

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**Job Narrative**  
**720-82540-1**

**Comments**

No additional comments.

**Receipt**

The samples were received on 10/12/2017 5:40 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.8° C.

**Receipt Exceptions**

**GC/MS VOA**

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.



# Detection Summary

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave

TestAmerica Job ID: 720-82540-1

Client Sample ID: TRIPBLANK-J6038-101217

Lab Sample ID: 720-82540-1

No Detections.

Client Sample ID: J6038-T21B-101217

Lab Sample ID: 720-82540-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethene	1.5		0.50		ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	2.0		0.50		ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	460		5.0		ug/L	10		8260B	Total/NA
Trichloroethene	250		5.0		ug/L	10		8260B	Total/NA
1,1,2-Trichloro-1,2,2-trifluoroethane	16		0.50		ug/L	1		8260B	Total/NA

Client Sample ID: J6038-T17A-101217

Lab Sample ID: 720-82540-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	13		0.50		ug/L	1		8260B	Total/NA
Trichloroethene	72		0.50		ug/L	1		8260B	Total/NA
Tetrachloroethene	1.2		0.50		ug/L	1		8260B	Total/NA

Client Sample ID: J6038-T17B-101217

Lab Sample ID: 720-82540-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	370		5.0		ug/L	10		8260B	Total/NA
Trichloroethene	210		5.0		ug/L	10		8260B	Total/NA
1,1,2-Trichloro-1,2,2-trifluoroethane	7.1		5.0		ug/L	10		8260B	Total/NA

Client Sample ID: J6038-38S-101217

Lab Sample ID: 720-82540-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethene	0.62		0.50		ug/L	1		8260B	Total/NA
Vinyl chloride	6.7		0.50		ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	1.5		0.50		ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	170		0.50		ug/L	1		8260B	Total/NA
Trichloroethene	61		0.50		ug/L	1		8260B	Total/NA
1,1,2-Trichloro-1,2,2-trifluoroethane	1.4		0.50		ug/L	1		8260B	Total/NA

Client Sample ID: J6038-T8A-101217

Lab Sample ID: 720-82540-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethene	0.54		0.50		ug/L	1		8260B	Total/NA
Vinyl chloride	6.0		0.50		ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	1.7		0.50		ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	110		0.50		ug/L	1		8260B	Total/NA
Trichloroethene	45		0.50		ug/L	1		8260B	Total/NA
Tetrachloroethene	0.60		0.50		ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Pleasanton

# Client Sample Results

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave

TestAmerica Job ID: 720-82540-1

Client Sample ID: TRIPBLANK-J6038-101217

Lab Sample ID: 720-82540-1

Date Collected: 10/12/17 07:00

Matrix: Water

Date Received: 10/12/17 17:40

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.50		ug/L			10/18/17 14:44	1
1,1-Dichloroethane	ND		0.50		ug/L			10/18/17 14:44	1
Dichlorodifluoromethane	ND		0.50		ug/L			10/18/17 14:44	1
Vinyl chloride	ND		0.50		ug/L			10/18/17 14:44	1
Chloroethane	ND		1.0		ug/L			10/18/17 14:44	1
Trichlorofluoromethane	ND		1.0		ug/L			10/18/17 14:44	1
Methylene Chloride	ND		5.0		ug/L			10/18/17 14:44	1
trans-1,2-Dichloroethene	ND		0.50		ug/L			10/18/17 14:44	1
cis-1,2-Dichloroethene	ND		0.50		ug/L			10/18/17 14:44	1
Chloroform	ND		1.0		ug/L			10/18/17 14:44	1
1,1,1-Trichloroethane	ND		0.50		ug/L			10/18/17 14:44	1
Carbon tetrachloride	ND		0.50		ug/L			10/18/17 14:44	1
1,2-Dichloroethane	ND		0.50		ug/L			10/18/17 14:44	1
Trichloroethene	ND		0.50		ug/L			10/18/17 14:44	1
1,2-Dichloropropane	ND		0.50		ug/L			10/18/17 14:44	1
Dichlorobromomethane	ND		0.50		ug/L			10/18/17 14:44	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			10/18/17 14:44	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			10/18/17 14:44	1
1,1,2-Trichloroethane	ND		0.50		ug/L			10/18/17 14:44	1
Tetrachloroethene	ND		0.50		ug/L			10/18/17 14:44	1
Chlorodibromomethane	ND		0.50		ug/L			10/18/17 14:44	1
Chlorobenzene	ND		0.50		ug/L			10/18/17 14:44	1
Bromoform	ND		1.0		ug/L			10/18/17 14:44	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			10/18/17 14:44	1
1,3-Dichlorobenzene	ND		0.50		ug/L			10/18/17 14:44	1
1,4-Dichlorobenzene	ND		0.50		ug/L			10/18/17 14:44	1
1,2-Dichlorobenzene	ND		0.50		ug/L			10/18/17 14:44	1
Chloromethane	ND		1.0		ug/L			10/18/17 14:44	1
Bromomethane	ND		1.0		ug/L			10/18/17 14:44	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50		ug/L			10/18/17 14:44	1
EDB	ND		0.50		ug/L			10/18/17 14:44	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			10/18/17 14:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	96		70 - 130		10/18/17 14:44	1
4-Bromofluorobenzene	94		67 - 130		10/18/17 14:44	1
1,2-Dichloroethane-d4 (Surr)	104		72 - 130		10/18/17 14:44	1

TestAmerica Pleasanton

# Client Sample Results

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave

TestAmerica Job ID: 720-82540-1

Client Sample ID: J6038-T21B-101217

Lab Sample ID: 720-82540-2

Date Collected: 10/12/17 07:56

Matrix: Water

Date Received: 10/12/17 17:40

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>1,1-Dichloroethene</b>	<b>1.5</b>		0.50		ug/L			10/18/17 16:48	1
1,1-Dichloroethane	ND		0.50		ug/L			10/18/17 16:48	1
Dichlorodifluoromethane	ND		0.50		ug/L			10/18/17 16:48	1
Vinyl chloride	ND		0.50		ug/L			10/18/17 16:48	1
Chloroethane	ND		1.0		ug/L			10/18/17 16:48	1
Trichlorofluoromethane	ND		1.0		ug/L			10/18/17 16:48	1
Methylene Chloride	ND		5.0		ug/L			10/18/17 16:48	1
<b>trans-1,2-Dichloroethene</b>	<b>2.0</b>		0.50		ug/L			10/18/17 16:48	1
<b>cis-1,2-Dichloroethene</b>	<b>460</b>		5.0		ug/L			10/19/17 14:04	10
Chloroform	ND		1.0		ug/L			10/18/17 16:48	1
1,1,1-Trichloroethane	ND		0.50		ug/L			10/18/17 16:48	1
Carbon tetrachloride	ND		0.50		ug/L			10/18/17 16:48	1
1,2-Dichloroethane	ND		0.50		ug/L			10/18/17 16:48	1
<b>Trichloroethene</b>	<b>250</b>		5.0		ug/L			10/19/17 14:04	10
1,2-Dichloropropane	ND		0.50		ug/L			10/18/17 16:48	1
Dichlorobromomethane	ND		0.50		ug/L			10/18/17 16:48	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			10/18/17 16:48	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			10/18/17 16:48	1
1,1,2-Trichloroethane	ND		0.50		ug/L			10/18/17 16:48	1
Tetrachloroethene	ND		0.50		ug/L			10/18/17 16:48	1
Chlorodibromomethane	ND		0.50		ug/L			10/18/17 16:48	1
Chlorobenzene	ND		0.50		ug/L			10/18/17 16:48	1
Bromoform	ND		1.0		ug/L			10/18/17 16:48	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			10/18/17 16:48	1
1,3-Dichlorobenzene	ND		0.50		ug/L			10/18/17 16:48	1
1,4-Dichlorobenzene	ND		0.50		ug/L			10/18/17 16:48	1
1,2-Dichlorobenzene	ND		0.50		ug/L			10/18/17 16:48	1
Chloromethane	ND		1.0		ug/L			10/18/17 16:48	1
Bromomethane	ND		1.0		ug/L			10/18/17 16:48	1
<b>1,1,2-Trichloro-1,2,2-trifluoroethane</b>	<b>16</b>		0.50		ug/L			10/18/17 16:48	1
EDB	ND		0.50		ug/L			10/18/17 16:48	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			10/18/17 16:48	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Toluene-d8 (Surr)	98		70 - 130					10/18/17 16:48	1
Toluene-d8 (Surr)	98		70 - 130					10/19/17 14:04	10
4-Bromofluorobenzene	90		67 - 130					10/18/17 16:48	1
4-Bromofluorobenzene	90		67 - 130					10/19/17 14:04	10
1,2-Dichloroethane-d4 (Surr)	103		72 - 130					10/18/17 16:48	1
1,2-Dichloroethane-d4 (Surr)	103		72 - 130					10/19/17 14:04	10

TestAmerica Pleasanton

# Client Sample Results

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave

TestAmerica Job ID: 720-82540-1

Client Sample ID: J6038-T17A-101217

Lab Sample ID: 720-82540-3

Date Collected: 10/12/17 08:41

Matrix: Water

Date Received: 10/12/17 17:40

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.50		ug/L			10/18/17 15:18	1
1,1-Dichloroethane	ND		0.50		ug/L			10/18/17 15:18	1
Dichlorodifluoromethane	ND		0.50		ug/L			10/18/17 15:18	1
Vinyl chloride	ND		0.50		ug/L			10/18/17 15:18	1
Chloroethane	ND		1.0		ug/L			10/18/17 15:18	1
Trichlorofluoromethane	ND		1.0		ug/L			10/18/17 15:18	1
Methylene Chloride	ND		5.0		ug/L			10/18/17 15:18	1
trans-1,2-Dichloroethene	ND		0.50		ug/L			10/18/17 15:18	1
<b>cis-1,2-Dichloroethene</b>	<b>13</b>		0.50		ug/L			10/18/17 15:18	1
Chloroform	ND		1.0		ug/L			10/18/17 15:18	1
1,1,1-Trichloroethane	ND		0.50		ug/L			10/18/17 15:18	1
Carbon tetrachloride	ND		0.50		ug/L			10/18/17 15:18	1
1,2-Dichloroethane	ND		0.50		ug/L			10/18/17 15:18	1
<b>Trichloroethene</b>	<b>72</b>		0.50		ug/L			10/18/17 15:18	1
1,2-Dichloropropane	ND		0.50		ug/L			10/18/17 15:18	1
Dichlorobromomethane	ND		0.50		ug/L			10/18/17 15:18	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			10/18/17 15:18	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			10/18/17 15:18	1
1,1,2-Trichloroethane	ND		0.50		ug/L			10/18/17 15:18	1
<b>Tetrachloroethene</b>	<b>1.2</b>		0.50		ug/L			10/18/17 15:18	1
Chlorodibromomethane	ND		0.50		ug/L			10/18/17 15:18	1
Chlorobenzene	ND		0.50		ug/L			10/18/17 15:18	1
Bromoform	ND		1.0		ug/L			10/18/17 15:18	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			10/18/17 15:18	1
1,3-Dichlorobenzene	ND		0.50		ug/L			10/18/17 15:18	1
1,4-Dichlorobenzene	ND		0.50		ug/L			10/18/17 15:18	1
1,2-Dichlorobenzene	ND		0.50		ug/L			10/18/17 15:18	1
Chloromethane	ND		1.0		ug/L			10/18/17 15:18	1
Bromomethane	ND		1.0		ug/L			10/18/17 15:18	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50		ug/L			10/18/17 15:18	1
EDB	ND		0.50		ug/L			10/18/17 15:18	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			10/18/17 15:18	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Toluene-d8 (Surr)	99		70 - 130					10/18/17 15:18	1
4-Bromofluorobenzene	93		67 - 130					10/18/17 15:18	1
1,2-Dichloroethane-d4 (Surr)	104		72 - 130					10/18/17 15:18	1

TestAmerica Pleasanton

# Client Sample Results

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave

TestAmerica Job ID: 720-82540-1

Client Sample ID: J6038-T17B-101217

Lab Sample ID: 720-82540-4

Date Collected: 10/12/17 09:18

Matrix: Water

Date Received: 10/12/17 17:40

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		5.0		ug/L			10/18/17 16:18	10
1,1-Dichloroethane	ND		5.0		ug/L			10/18/17 16:18	10
Dichlorodifluoromethane	ND		5.0		ug/L			10/18/17 16:18	10
Vinyl chloride	ND		5.0		ug/L			10/18/17 16:18	10
Chloroethane	ND		10		ug/L			10/18/17 16:18	10
Trichlorofluoromethane	ND		10		ug/L			10/18/17 16:18	10
Methylene Chloride	ND		50		ug/L			10/18/17 16:18	10
trans-1,2-Dichloroethene	ND		5.0		ug/L			10/18/17 16:18	10
<b>cis-1,2-Dichloroethene</b>	<b>370</b>		5.0		ug/L			10/18/17 16:18	10
Chloroform	ND		10		ug/L			10/18/17 16:18	10
1,1,1-Trichloroethane	ND		5.0		ug/L			10/18/17 16:18	10
Carbon tetrachloride	ND		5.0		ug/L			10/18/17 16:18	10
1,2-Dichloroethane	ND		5.0		ug/L			10/18/17 16:18	10
<b>Trichloroethene</b>	<b>210</b>		5.0		ug/L			10/18/17 16:18	10
1,2-Dichloropropane	ND		5.0		ug/L			10/18/17 16:18	10
Dichlorobromomethane	ND		5.0		ug/L			10/18/17 16:18	10
trans-1,3-Dichloropropene	ND		5.0		ug/L			10/18/17 16:18	10
cis-1,3-Dichloropropene	ND		5.0		ug/L			10/18/17 16:18	10
1,1,2-Trichloroethane	ND		5.0		ug/L			10/18/17 16:18	10
Tetrachloroethene	ND		5.0		ug/L			10/18/17 16:18	10
Chlorodibromomethane	ND		5.0		ug/L			10/18/17 16:18	10
Chlorobenzene	ND		5.0		ug/L			10/18/17 16:18	10
Bromoform	ND		10		ug/L			10/18/17 16:18	10
1,1,2,2-Tetrachloroethane	ND		5.0		ug/L			10/18/17 16:18	10
1,3-Dichlorobenzene	ND		5.0		ug/L			10/18/17 16:18	10
1,4-Dichlorobenzene	ND		5.0		ug/L			10/18/17 16:18	10
1,2-Dichlorobenzene	ND		5.0		ug/L			10/18/17 16:18	10
Chloromethane	ND		10		ug/L			10/18/17 16:18	10
Bromomethane	ND		10		ug/L			10/18/17 16:18	10
<b>1,1,2-Trichloro-1,2,2-trifluoroethane</b>	<b>7.1</b>		5.0		ug/L			10/18/17 16:18	10
EDB	ND		5.0		ug/L			10/18/17 16:18	10
1,2,4-Trichlorobenzene	ND		10		ug/L			10/18/17 16:18	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	98		70 - 130					10/18/17 16:18	10
4-Bromofluorobenzene	92		67 - 130					10/18/17 16:18	10
1,2-Dichloroethane-d4 (Surr)	102		72 - 130					10/18/17 16:18	10

TestAmerica Pleasanton

# Client Sample Results

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave

TestAmerica Job ID: 720-82540-1

Client Sample ID: J6038-38S-101217

Lab Sample ID: 720-82540-5

Date Collected: 10/12/17 10:18

Matrix: Water

Date Received: 10/12/17 17:40

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>1,1-Dichloroethene</b>	<b>0.62</b>		0.50		ug/L			10/18/17 18:12	1
1,1-Dichloroethane	ND		0.50		ug/L			10/18/17 18:12	1
Dichlorodifluoromethane	ND		0.50		ug/L			10/18/17 18:12	1
<b>Vinyl chloride</b>	<b>6.7</b>		0.50		ug/L			10/18/17 18:12	1
Chloroethane	ND		1.0		ug/L			10/18/17 18:12	1
Trichlorofluoromethane	ND		1.0		ug/L			10/18/17 18:12	1
Methylene Chloride	ND		5.0		ug/L			10/18/17 18:12	1
<b>trans-1,2-Dichloroethene</b>	<b>1.5</b>		0.50		ug/L			10/18/17 18:12	1
<b>cis-1,2-Dichloroethene</b>	<b>170</b>		0.50		ug/L			10/18/17 18:12	1
Chloroform	ND		1.0		ug/L			10/18/17 18:12	1
1,1,1-Trichloroethane	ND		0.50		ug/L			10/18/17 18:12	1
Carbon tetrachloride	ND		0.50		ug/L			10/18/17 18:12	1
1,2-Dichloroethane	ND		0.50		ug/L			10/18/17 18:12	1
<b>Trichloroethene</b>	<b>61</b>		0.50		ug/L			10/18/17 18:12	1
1,2-Dichloropropane	ND		0.50		ug/L			10/18/17 18:12	1
Dichlorobromomethane	ND		0.50		ug/L			10/18/17 18:12	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			10/18/17 18:12	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			10/18/17 18:12	1
1,1,2-Trichloroethane	ND		0.50		ug/L			10/18/17 18:12	1
Tetrachloroethene	ND		0.50		ug/L			10/18/17 18:12	1
Chlorodibromomethane	ND		0.50		ug/L			10/18/17 18:12	1
Chlorobenzene	ND		0.50		ug/L			10/18/17 18:12	1
Bromoform	ND		1.0		ug/L			10/18/17 18:12	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			10/18/17 18:12	1
1,3-Dichlorobenzene	ND		0.50		ug/L			10/18/17 18:12	1
1,4-Dichlorobenzene	ND		0.50		ug/L			10/18/17 18:12	1
1,2-Dichlorobenzene	ND		0.50		ug/L			10/18/17 18:12	1
Chloromethane	ND		1.0		ug/L			10/18/17 18:12	1
Bromomethane	ND		1.0		ug/L			10/18/17 18:12	1
<b>1,1,2-Trichloro-1,2,2-trifluoroethane</b>	<b>1.4</b>		0.50		ug/L			10/18/17 18:12	1
EDB	ND		0.50		ug/L			10/18/17 18:12	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			10/18/17 18:12	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
<i>Toluene-d8 (Surr)</i>	93		70 - 130					10/18/17 18:12	1
<i>4-Bromofluorobenzene</i>	85		67 - 130					10/18/17 18:12	1
<i>1,2-Dichloroethane-d4 (Surr)</i>	86		72 - 130					10/18/17 18:12	1

TestAmerica Pleasanton

# Client Sample Results

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave

TestAmerica Job ID: 720-82540-1

Client Sample ID: J6038-T8A-101217

Lab Sample ID: 720-82540-6

Date Collected: 10/12/17 11:05

Matrix: Water

Date Received: 10/12/17 17:40

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>1,1-Dichloroethene</b>	<b>0.54</b>		0.50		ug/L			10/18/17 15:48	1
1,1-Dichloroethane	ND		0.50		ug/L			10/18/17 15:48	1
Dichlorodifluoromethane	ND		0.50		ug/L			10/18/17 15:48	1
<b>Vinyl chloride</b>	<b>6.0</b>		0.50		ug/L			10/18/17 15:48	1
Chloroethane	ND		1.0		ug/L			10/18/17 15:48	1
Trichlorofluoromethane	ND		1.0		ug/L			10/18/17 15:48	1
Methylene Chloride	ND		5.0		ug/L			10/18/17 15:48	1
<b>trans-1,2-Dichloroethene</b>	<b>1.7</b>		0.50		ug/L			10/18/17 15:48	1
<b>cis-1,2-Dichloroethene</b>	<b>110</b>		0.50		ug/L			10/18/17 15:48	1
Chloroform	ND		1.0		ug/L			10/18/17 15:48	1
1,1,1-Trichloroethane	ND		0.50		ug/L			10/18/17 15:48	1
Carbon tetrachloride	ND		0.50		ug/L			10/18/17 15:48	1
1,2-Dichloroethane	ND		0.50		ug/L			10/18/17 15:48	1
<b>Trichloroethene</b>	<b>45</b>		0.50		ug/L			10/18/17 15:48	1
1,2-Dichloropropane	ND		0.50		ug/L			10/18/17 15:48	1
Dichlorobromomethane	ND		0.50		ug/L			10/18/17 15:48	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			10/18/17 15:48	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			10/18/17 15:48	1
1,1,2-Trichloroethane	ND		0.50		ug/L			10/18/17 15:48	1
<b>Tetrachloroethene</b>	<b>0.60</b>		0.50		ug/L			10/18/17 15:48	1
Chlorodibromomethane	ND		0.50		ug/L			10/18/17 15:48	1
Chlorobenzene	ND		0.50		ug/L			10/18/17 15:48	1
Bromoform	ND		1.0		ug/L			10/18/17 15:48	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			10/18/17 15:48	1
1,3-Dichlorobenzene	ND		0.50		ug/L			10/18/17 15:48	1
1,4-Dichlorobenzene	ND		0.50		ug/L			10/18/17 15:48	1
1,2-Dichlorobenzene	ND		0.50		ug/L			10/18/17 15:48	1
Chloromethane	ND		1.0		ug/L			10/18/17 15:48	1
Bromomethane	ND		1.0		ug/L			10/18/17 15:48	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50		ug/L			10/18/17 15:48	1
EDB	ND		0.50		ug/L			10/18/17 15:48	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			10/18/17 15:48	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Toluene-d8 (Surr)	98		70 - 130					10/18/17 15:48	1
4-Bromofluorobenzene	92		67 - 130					10/18/17 15:48	1
1,2-Dichloroethane-d4 (Surr)	103		72 - 130					10/18/17 15:48	1

TestAmerica Pleasanton

# Surrogate Summary

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave

TestAmerica Job ID: 720-82540-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		TOL (70-130)	BFB (67-130)	12DCE (72-130)
720-82540-1	TRIPBLANK-J6038-101217	96	94	104
720-82540-2	J6038-T21B-101217	98	90	103
720-82540-2	J6038-T21B-101217	98	90	103
720-82540-3	J6038-T17A-101217	99	93	104
720-82540-3 MS	J6038-T17A-101217	101	96	99
720-82540-3 MSD	J6038-T17A-101217	101	97	102
720-82540-4	J6038-T17B-101217	98	92	102
720-82540-5	J6038-38S-101217	93	85	86
720-82540-6	J6038-T8A-101217	98	92	103
LCS 720-232310/5	Lab Control Sample	101	99	100
LCS 720-232319/5	Lab Control Sample	98	95	78
LCS 720-232383/5	Lab Control Sample	101	94	98
LCSD 720-232310/6	Lab Control Sample Dup	101	98	103
LCSD 720-232319/6	Lab Control Sample Dup	97	97	84
LCSD 720-232383/6	Lab Control Sample Dup	101	94	97
MB 720-232310/4	Method Blank	99	95	106
MB 720-232319/4	Method Blank	95	86	84
MB 720-232383/4	Method Blank	99	95	101

**Surrogate Legend**

TOL = Toluene-d8 (Surr)

BFB = 4-Bromofluorobenzene

12DCE = 1,2-Dichloroethane-d4 (Surr)

# QC Sample Results

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave

TestAmerica Job ID: 720-82540-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 720-232310/4

Matrix: Water

Analysis Batch: 232310

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.50		ug/L			10/18/17 09:12	1
1,1-Dichloroethane	ND		0.50		ug/L			10/18/17 09:12	1
Dichlorodifluoromethane	ND		0.50		ug/L			10/18/17 09:12	1
Vinyl chloride	ND		0.50		ug/L			10/18/17 09:12	1
Chloroethane	ND		1.0		ug/L			10/18/17 09:12	1
Trichlorofluoromethane	ND		1.0		ug/L			10/18/17 09:12	1
Methylene Chloride	ND		5.0		ug/L			10/18/17 09:12	1
trans-1,2-Dichloroethene	ND		0.50		ug/L			10/18/17 09:12	1
cis-1,2-Dichloroethene	ND		0.50		ug/L			10/18/17 09:12	1
Chloroform	ND		1.0		ug/L			10/18/17 09:12	1
1,1,1-Trichloroethane	ND		0.50		ug/L			10/18/17 09:12	1
Carbon tetrachloride	ND		0.50		ug/L			10/18/17 09:12	1
1,2-Dichloroethane	ND		0.50		ug/L			10/18/17 09:12	1
Trichloroethene	ND		0.50		ug/L			10/18/17 09:12	1
1,2-Dichloropropane	ND		0.50		ug/L			10/18/17 09:12	1
Dichlorobromomethane	ND		0.50		ug/L			10/18/17 09:12	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			10/18/17 09:12	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			10/18/17 09:12	1
1,1,2-Trichloroethane	ND		0.50		ug/L			10/18/17 09:12	1
Tetrachloroethene	ND		0.50		ug/L			10/18/17 09:12	1
Chlorodibromomethane	ND		0.50		ug/L			10/18/17 09:12	1
Chlorobenzene	ND		0.50		ug/L			10/18/17 09:12	1
Bromoform	ND		1.0		ug/L			10/18/17 09:12	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			10/18/17 09:12	1
1,3-Dichlorobenzene	ND		0.50		ug/L			10/18/17 09:12	1
1,4-Dichlorobenzene	ND		0.50		ug/L			10/18/17 09:12	1
1,2-Dichlorobenzene	ND		0.50		ug/L			10/18/17 09:12	1
Chloromethane	ND		1.0		ug/L			10/18/17 09:12	1
Bromomethane	ND		1.0		ug/L			10/18/17 09:12	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50		ug/L			10/18/17 09:12	1
EDB	ND		0.50		ug/L			10/18/17 09:12	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			10/18/17 09:12	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	99		70 - 130		10/18/17 09:12	1
4-Bromofluorobenzene	95		67 - 130		10/18/17 09:12	1
1,2-Dichloroethane-d4 (Surr)	106		72 - 130		10/18/17 09:12	1

Lab Sample ID: LCS 720-232310/5

Matrix: Water

Analysis Batch: 232310

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	25.0	22.8		ug/L		91	64 - 128
1,1-Dichloroethane	25.0	25.9		ug/L		104	70 - 130
Dichlorodifluoromethane	25.0	24.0		ug/L		96	32 - 158
Vinyl chloride	25.0	25.0		ug/L		100	54 - 135
Chloroethane	25.0	25.1		ug/L		100	62 - 138

TestAmerica Pleasanton

# QC Sample Results

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave

TestAmerica Job ID: 720-82540-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 720-232310/5**  
**Matrix: Water**  
**Analysis Batch: 232310**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Trichlorofluoromethane	25.0	24.9		ug/L		100	66 - 132
Methylene Chloride	25.0	25.7		ug/L		103	70 - 147
trans-1,2-Dichloroethene	25.0	25.1		ug/L		100	68 - 130
cis-1,2-Dichloroethene	25.0	26.1		ug/L		104	70 - 130
Chloroform	25.0	25.8		ug/L		103	70 - 130
1,1,1-Trichloroethane	25.0	26.2		ug/L		105	70 - 130
Carbon tetrachloride	25.0	26.2		ug/L		105	70 - 146
1,2-Dichloroethane	25.0	26.6		ug/L		106	61 - 132
Trichloroethene	25.0	25.2		ug/L		101	70 - 130
1,2-Dichloropropane	25.0	27.1		ug/L		108	70 - 130
Dichlorobromomethane	25.0	28.2		ug/L		113	70 - 130
trans-1,3-Dichloropropene	25.0	27.6		ug/L		110	70 - 140
cis-1,3-Dichloropropene	25.0	27.3		ug/L		109	70 - 130
1,1,2-Trichloroethane	25.0	28.0		ug/L		112	70 - 130
Tetrachloroethene	25.0	25.1		ug/L		100	70 - 130
Chlorodibromomethane	25.0	27.1		ug/L		109	70 - 145
Chlorobenzene	25.0	25.8		ug/L		103	70 - 130
Bromoform	25.0	26.1		ug/L		105	68 - 136
1,1,2,2-Tetrachloroethane	25.0	27.7		ug/L		111	70 - 130
1,3-Dichlorobenzene	25.0	25.4		ug/L		102	70 - 130
1,4-Dichlorobenzene	25.0	25.5		ug/L		102	70 - 130
1,2-Dichlorobenzene	25.0	25.4		ug/L		102	70 - 130
Chloromethane	25.0	24.9		ug/L		99	52 - 175
Bromomethane	25.0	24.8		ug/L		99	43 - 151
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	23.5		ug/L		94	42 - 162
EDB	25.0	27.2		ug/L		109	70 - 130
1,2,4-Trichlorobenzene	25.0	26.1		ug/L		104	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	101		70 - 130
4-Bromofluorobenzene	99		67 - 130
1,2-Dichloroethane-d4 (Surr)	100		72 - 130

**Lab Sample ID: LCSD 720-232310/6**  
**Matrix: Water**  
**Analysis Batch: 232310**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
1,1-Dichloroethene	25.0	23.6		ug/L		94	64 - 128	3	20
1,1-Dichloroethane	25.0	26.6		ug/L		106	70 - 130	2	20
Dichlorodifluoromethane	25.0	23.9		ug/L		95	32 - 158	1	20
Vinyl chloride	25.0	26.4		ug/L		106	54 - 135	5	20
Chloroethane	25.0	26.0		ug/L		104	62 - 138	3	20
Trichlorofluoromethane	25.0	25.4		ug/L		102	66 - 132	2	20
Methylene Chloride	25.0	26.3		ug/L		105	70 - 147	2	20
trans-1,2-Dichloroethene	25.0	25.7		ug/L		103	68 - 130	3	20
cis-1,2-Dichloroethene	25.0	26.5		ug/L		106	70 - 130	2	20

TestAmerica Pleasanton

# QC Sample Results

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave

TestAmerica Job ID: 720-82540-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 720-232310/6

Matrix: Water

Analysis Batch: 232310

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Chloroform	25.0	26.2		ug/L		105	70 - 130	2	20
1,1,1-Trichloroethane	25.0	26.8		ug/L		107	70 - 130	2	20
Carbon tetrachloride	25.0	26.9		ug/L		108	70 - 146	3	20
1,2-Dichloroethane	25.0	27.0		ug/L		108	61 - 132	2	20
Trichloroethene	25.0	25.5		ug/L		102	70 - 130	1	20
1,2-Dichloropropane	25.0	27.4		ug/L		110	70 - 130	1	20
Dichlorobromomethane	25.0	28.2		ug/L		113	70 - 130	0	20
trans-1,3-Dichloropropene	25.0	27.9		ug/L		112	70 - 140	1	20
cis-1,3-Dichloropropene	25.0	27.8		ug/L		111	70 - 130	2	20
1,1,2-Trichloroethane	25.0	28.4		ug/L		113	70 - 130	1	20
Tetrachloroethene	25.0	25.6		ug/L		102	70 - 130	2	20
Chlorodibromomethane	25.0	27.7		ug/L		111	70 - 145	2	20
Chlorobenzene	25.0	26.5		ug/L		106	70 - 130	3	20
Bromoform	25.0	26.7		ug/L		107	68 - 136	2	20
1,1,2,2-Tetrachloroethane	25.0	28.4		ug/L		113	70 - 130	2	20
1,3-Dichlorobenzene	25.0	26.0		ug/L		104	70 - 130	2	20
1,4-Dichlorobenzene	25.0	25.9		ug/L		104	70 - 130	2	20
1,2-Dichlorobenzene	25.0	26.0		ug/L		104	70 - 130	2	20
Chloromethane	25.0	25.3		ug/L		101	52 - 175	2	20
Bromomethane	25.0	25.0		ug/L		100	43 - 151	1	20
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	24.1		ug/L		97	42 - 162	3	20
EDB	25.0	27.7		ug/L		111	70 - 130	2	20
1,2,4-Trichlorobenzene	25.0	26.2		ug/L		105	70 - 130	1	20

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
Toluene-d8 (Surr)	101		70 - 130
4-Bromofluorobenzene	98		67 - 130
1,2-Dichloroethane-d4 (Surr)	103		72 - 130

Lab Sample ID: 720-82540-3 MS

Matrix: Water

Analysis Batch: 232310

Client Sample ID: J6038-T17A-101217

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	ND		25.0	23.9		ug/L		96	60 - 140
1,1-Dichloroethane	ND		25.0	26.7		ug/L		106	60 - 140
Dichlorodifluoromethane	ND		25.0	23.2		ug/L		93	38 - 140
Vinyl chloride	ND		25.0	24.8		ug/L		98	58 - 140
Chloroethane	ND		25.0	25.6		ug/L		102	51 - 140
Trichlorofluoromethane	ND		25.0	25.8		ug/L		103	60 - 140
Methylene Chloride	ND		25.0	26.3		ug/L		105	40 - 140
trans-1,2-Dichloroethene	ND		25.0	25.6		ug/L		101	60 - 140
cis-1,2-Dichloroethene	13		25.0	39.3		ug/L		106	60 - 140
Chloroform	ND		25.0	26.3		ug/L		105	60 - 140
1,1,1-Trichloroethane	ND		25.0	27.3		ug/L		109	60 - 140
Carbon tetrachloride	ND		25.0	27.0		ug/L		108	60 - 140
1,2-Dichloroethane	ND		25.0	26.2		ug/L		105	60 - 140

TestAmerica Pleasanton

# QC Sample Results

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave

TestAmerica Job ID: 720-82540-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 720-82540-3 MS

Matrix: Water

Analysis Batch: 232310

Client Sample ID: J6038-T17A-101217

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier	Added	Result	Qualifier				
Trichloroethene	72		25.0	94.5		ug/L		91	60 - 140
1,2-Dichloropropane	ND		25.0	27.8		ug/L		111	60 - 140
Dichlorobromomethane	ND		25.0	28.6		ug/L		115	60 - 140
trans-1,3-Dichloropropene	ND		25.0	26.6		ug/L		106	60 - 140
cis-1,3-Dichloropropene	ND		25.0	27.2		ug/L		109	60 - 140
1,1,2-Trichloroethane	ND		25.0	27.1		ug/L		109	60 - 140
Tetrachloroethene	1.2		25.0	27.0		ug/L		103	60 - 140
Chlorodibromomethane	ND		25.0	26.7		ug/L		107	60 - 140
Chlorobenzene	ND		25.0	26.4		ug/L		106	60 - 140
Bromoform	ND		25.0	24.5		ug/L		98	56 - 140
1,1,2,2-Tetrachloroethane	ND		25.0	25.7		ug/L		103	60 - 140
1,3-Dichlorobenzene	ND		25.0	26.1		ug/L		105	60 - 140
1,4-Dichlorobenzene	ND		25.0	26.2		ug/L		105	60 - 140
1,2-Dichlorobenzene	ND		25.0	25.8		ug/L		103	60 - 140
Chloromethane	ND		25.0	23.6		ug/L		94	52 - 140
Bromomethane	ND		25.0	25.3		ug/L		101	23 - 140
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		25.0	25.0		ug/L		98	60 - 140
EDB	ND		25.0	26.1		ug/L		104	60 - 140
1,2,4-Trichlorobenzene	ND		25.0	26.3		ug/L		105	60 - 140

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	101		70 - 130
4-Bromofluorobenzene	96		67 - 130
1,2-Dichloroethane-d4 (Surr)	99		72 - 130

Lab Sample ID: 720-82540-3 MSD

Matrix: Water

Analysis Batch: 232310

Client Sample ID: J6038-T17A-101217

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
	Result	Qualifier	Added	Result	Qualifier						
1,1-Dichloroethene	ND		25.0	23.5		ug/L		94	60 - 140	2	20
1,1-Dichloroethane	ND		25.0	26.9		ug/L		107	60 - 140	1	20
Dichlorodifluoromethane	ND		25.0	23.6		ug/L		94	38 - 140	2	20
Vinyl chloride	ND		25.0	25.2		ug/L		99	58 - 140	1	20
Chloroethane	ND		25.0	24.5		ug/L		98	51 - 140	4	20
Trichlorofluoromethane	ND		25.0	25.7		ug/L		103	60 - 140	0	20
Methylene Chloride	ND		25.0	26.5		ug/L		106	40 - 140	0	20
trans-1,2-Dichloroethene	ND		25.0	26.1		ug/L		103	60 - 140	2	20
cis-1,2-Dichloroethene	13		25.0	39.3		ug/L		106	60 - 140	0	20
Chloroform	ND		25.0	26.7		ug/L		107	60 - 140	2	20
1,1,1-Trichloroethane	ND		25.0	27.4		ug/L		110	60 - 140	1	20
Carbon tetrachloride	ND		25.0	27.3		ug/L		109	60 - 140	1	20
1,2-Dichloroethane	ND		25.0	27.4		ug/L		110	60 - 140	5	20
Trichloroethene	72		25.0	91.7		ug/L		79	60 - 140	3	20
1,2-Dichloropropane	ND		25.0	28.3		ug/L		113	60 - 140	2	20
Dichlorobromomethane	ND		25.0	29.1		ug/L		116	60 - 140	2	20
trans-1,3-Dichloropropene	ND		25.0	28.0		ug/L		112	60 - 140	5	20

TestAmerica Pleasanton

# QC Sample Results

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave

TestAmerica Job ID: 720-82540-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 720-82540-3 MSD

Matrix: Water

Analysis Batch: 232310

Client Sample ID: J6038-T17A-101217

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits		
cis-1,3-Dichloropropene	ND		25.0	27.9		ug/L		112	60 - 140	3	20
1,1,2-Trichloroethane	ND		25.0	28.6		ug/L		114	60 - 140	5	20
Tetrachloroethene	1.2		25.0	26.7		ug/L		102	60 - 140	1	20
Chlorodibromomethane	ND		25.0	27.9		ug/L		112	60 - 140	4	20
Chlorobenzene	ND		25.0	26.8		ug/L		107	60 - 140	1	20
Bromoform	ND		25.0	27.5		ug/L		110	56 - 140	11	20
1,1,1,2-Tetrachloroethane	ND		25.0	27.8		ug/L		111	60 - 140	8	20
1,3-Dichlorobenzene	ND		25.0	26.2		ug/L		105	60 - 140	0	20
1,4-Dichlorobenzene	ND		25.0	26.3		ug/L		105	60 - 140	1	20
1,2-Dichlorobenzene	ND		25.0	26.4		ug/L		106	60 - 140	2	20
Chloromethane	ND		25.0	24.1		ug/L		96	52 - 140	2	20
Bromomethane	ND		25.0	24.5		ug/L		98	23 - 140	3	20
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		25.0	24.4		ug/L		96	60 - 140	2	20
EDB	ND		25.0	27.9		ug/L		111	60 - 140	7	20
1,2,4-Trichlorobenzene	ND		25.0	26.4		ug/L		106	60 - 140	1	20

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	101		70 - 130
4-Bromofluorobenzene	97		67 - 130
1,2-Dichloroethane-d4 (Surr)	102		72 - 130

Lab Sample ID: MB 720-232319/4

Matrix: Water

Analysis Batch: 232319

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1-Dichloroethene	ND		0.50		ug/L			10/18/17 10:51	1
1,1-Dichloroethane	ND		0.50		ug/L			10/18/17 10:51	1
Dichlorodifluoromethane	ND		0.50		ug/L			10/18/17 10:51	1
Vinyl chloride	ND		0.50		ug/L			10/18/17 10:51	1
Chloroethane	ND		1.0		ug/L			10/18/17 10:51	1
Trichlorofluoromethane	ND		1.0		ug/L			10/18/17 10:51	1
Methylene Chloride	ND		5.0		ug/L			10/18/17 10:51	1
trans-1,2-Dichloroethene	ND		0.50		ug/L			10/18/17 10:51	1
cis-1,2-Dichloroethene	ND		0.50		ug/L			10/18/17 10:51	1
Chloroform	ND		1.0		ug/L			10/18/17 10:51	1
1,1,1-Trichloroethane	ND		0.50		ug/L			10/18/17 10:51	1
Carbon tetrachloride	ND		0.50		ug/L			10/18/17 10:51	1
1,2-Dichloroethane	ND		0.50		ug/L			10/18/17 10:51	1
Trichloroethene	ND		0.50		ug/L			10/18/17 10:51	1
1,2-Dichloropropane	ND		0.50		ug/L			10/18/17 10:51	1
Dichlorobromomethane	ND		0.50		ug/L			10/18/17 10:51	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			10/18/17 10:51	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			10/18/17 10:51	1
1,1,2-Trichloroethane	ND		0.50		ug/L			10/18/17 10:51	1
Tetrachloroethene	ND		0.50		ug/L			10/18/17 10:51	1
Chlorodibromomethane	ND		0.50		ug/L			10/18/17 10:51	1

TestAmerica Pleasanton

# QC Sample Results

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave

TestAmerica Job ID: 720-82540-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 720-232319/4**  
**Matrix: Water**  
**Analysis Batch: 232319**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Chlorobenzene	ND		0.50		ug/L			10/18/17 10:51	1
Bromoform	ND		1.0		ug/L			10/18/17 10:51	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			10/18/17 10:51	1
1,3-Dichlorobenzene	ND		0.50		ug/L			10/18/17 10:51	1
1,4-Dichlorobenzene	ND		0.50		ug/L			10/18/17 10:51	1
1,2-Dichlorobenzene	ND		0.50		ug/L			10/18/17 10:51	1
Chloromethane	ND		1.0		ug/L			10/18/17 10:51	1
Bromomethane	ND		1.0		ug/L			10/18/17 10:51	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50		ug/L			10/18/17 10:51	1
EDB	ND		0.50		ug/L			10/18/17 10:51	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			10/18/17 10:51	1
Surrogate	MB	MB	Limits				Prepared	Analyzed	Dil Fac
%Recovery	Qualifier								
Toluene-d8 (Surr)	95		70 - 130					10/18/17 10:51	1
4-Bromofluorobenzene	86		67 - 130					10/18/17 10:51	1
1,2-Dichloroethane-d4 (Surr)	84		72 - 130					10/18/17 10:51	1

**Lab Sample ID: LCS 720-232319/5**  
**Matrix: Water**  
**Analysis Batch: 232319**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
1,1-Dichloroethene	25.0	28.6		ug/L		114	64 - 128
1,1-Dichloroethane	25.0	27.3		ug/L		109	70 - 130
Dichlorodifluoromethane	25.0	32.7		ug/L		131	32 - 158
Vinyl chloride	25.0	30.5		ug/L		122	54 - 135
Chloroethane	25.0	28.7		ug/L		115	62 - 138
Trichlorofluoromethane	25.0	31.0		ug/L		124	66 - 132
Methylene Chloride	25.0	22.8		ug/L		91	70 - 147
trans-1,2-Dichloroethene	25.0	29.4		ug/L		118	68 - 130
cis-1,2-Dichloroethene	25.0	26.2		ug/L		105	70 - 130
Chloroform	25.0	26.1		ug/L		104	70 - 130
1,1,1-Trichloroethane	25.0	29.3		ug/L		117	70 - 130
Carbon tetrachloride	25.0	29.4		ug/L		118	70 - 146
1,2-Dichloroethane	25.0	22.5		ug/L		90	61 - 132
Trichloroethene	25.0	28.8		ug/L		115	70 - 130
1,2-Dichloropropane	25.0	25.7		ug/L		103	70 - 130
Dichlorobromomethane	25.0	24.5		ug/L		98	70 - 130
trans-1,3-Dichloropropene	25.0	19.9		ug/L		80	70 - 140
cis-1,3-Dichloropropene	25.0	22.6		ug/L		91	70 - 130
1,1,2-Trichloroethane	25.0	23.1		ug/L		92	70 - 130
Tetrachloroethene	25.0	30.4		ug/L		122	70 - 130
Chlorodibromomethane	25.0	19.2		ug/L		77	70 - 145
Chlorobenzene	25.0	27.2		ug/L		109	70 - 130
Bromoform	25.0	18.7		ug/L		75	68 - 136
1,1,2,2-Tetrachloroethane	25.0	20.7		ug/L		83	70 - 130
1,3-Dichlorobenzene	25.0	27.4		ug/L		109	70 - 130
1,4-Dichlorobenzene	25.0	27.0		ug/L		108	70 - 130

TestAmerica Pleasanton

# QC Sample Results

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave

TestAmerica Job ID: 720-82540-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 720-232319/5

Matrix: Water

Analysis Batch: 232319

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichlorobenzene	25.0	25.9		ug/L		104	70 - 130
Chloromethane	25.0	30.1		ug/L		120	52 - 175
Bromomethane	25.0	28.3		ug/L		113	43 - 151
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	30.3		ug/L		121	42 - 162
EDB	25.0	20.6		ug/L		82	70 - 130
1,2,4-Trichlorobenzene	25.0	26.6		ug/L		106	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	98		70 - 130
4-Bromofluorobenzene	95		67 - 130
1,2-Dichloroethane-d4 (Surr)	78		72 - 130

Lab Sample ID: LCSD 720-232319/6

Matrix: Water

Analysis Batch: 232319

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethane	25.0	28.7		ug/L		115	64 - 128	0	20
1,1-Dichloroethane	25.0	27.1		ug/L		108	70 - 130	1	20
Dichlorodifluoromethane	25.0	32.2		ug/L		129	32 - 158	2	20
Vinyl chloride	25.0	31.3		ug/L		125	54 - 135	3	20
Chloroethane	25.0	28.5		ug/L		114	62 - 138	1	20
Trichlorofluoromethane	25.0	31.3		ug/L		125	66 - 132	1	20
Methylene Chloride	25.0	23.2		ug/L		93	70 - 147	2	20
trans-1,2-Dichloroethene	25.0	29.3		ug/L		117	68 - 130	1	20
cis-1,2-Dichloroethene	25.0	26.2		ug/L		105	70 - 130	0	20
Chloroform	25.0	26.0		ug/L		104	70 - 130	0	20
1,1,1-Trichloroethane	25.0	28.8		ug/L		115	70 - 130	2	20
Carbon tetrachloride	25.0	29.4		ug/L		117	70 - 146	0	20
1,2-Dichloroethane	25.0	23.5		ug/L		94	61 - 132	4	20
Trichloroethene	25.0	28.4		ug/L		114	70 - 130	1	20
1,2-Dichloropropane	25.0	26.1		ug/L		104	70 - 130	2	20
Dichlorobromomethane	25.0	25.2		ug/L		101	70 - 130	3	20
trans-1,3-Dichloropropene	25.0	21.2		ug/L		85	70 - 140	6	20
cis-1,3-Dichloropropene	25.0	23.5		ug/L		94	70 - 130	4	20
1,1,2-Trichloroethane	25.0	24.7		ug/L		99	70 - 130	7	20
Tetrachloroethene	25.0	29.5		ug/L		118	70 - 130	3	20
Chlorodibromomethane	25.0	20.8		ug/L		83	70 - 145	8	20
Chlorobenzene	25.0	27.1		ug/L		108	70 - 130	1	20
Bromoform	25.0	21.0		ug/L		84	68 - 136	11	20
1,1,2,2-Tetrachloroethane	25.0	23.5		ug/L		94	70 - 130	13	20
1,3-Dichlorobenzene	25.0	27.3		ug/L		109	70 - 130	0	20
1,4-Dichlorobenzene	25.0	27.2		ug/L		109	70 - 130	1	20
1,2-Dichlorobenzene	25.0	26.3		ug/L		105	70 - 130	1	20
Chloromethane	25.0	30.0		ug/L		120	52 - 175	1	20
Bromomethane	25.0	28.7		ug/L		115	43 - 151	2	20

TestAmerica Pleasanton

# QC Sample Results

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave

TestAmerica Job ID: 720-82540-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 720-232319/6

Matrix: Water

Analysis Batch: 232319

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	29.8		ug/L		119	42 - 162	2	20
EDB	25.0	22.3		ug/L		89	70 - 130	8	20
1,2,4-Trichlorobenzene	25.0	27.4		ug/L		110	70 - 130	3	20

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
Toluene-d8 (Surr)	97		70 - 130
4-Bromofluorobenzene	97		67 - 130
1,2-Dichloroethane-d4 (Surr)	84		72 - 130

Lab Sample ID: MB 720-232383/4

Matrix: Water

Analysis Batch: 232383

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.50		ug/L			10/19/17 09:35	1
1,1,1-Dichloroethane	ND		0.50		ug/L			10/19/17 09:35	1
Dichlorodifluoromethane	ND		0.50		ug/L			10/19/17 09:35	1
Vinyl chloride	ND		0.50		ug/L			10/19/17 09:35	1
Chloroethane	ND		1.0		ug/L			10/19/17 09:35	1
Trichlorofluoromethane	ND		1.0		ug/L			10/19/17 09:35	1
Methylene Chloride	ND		5.0		ug/L			10/19/17 09:35	1
trans-1,2-Dichloroethene	ND		0.50		ug/L			10/19/17 09:35	1
cis-1,2-Dichloroethene	ND		0.50		ug/L			10/19/17 09:35	1
Chloroform	ND		1.0		ug/L			10/19/17 09:35	1
1,1,1-Trichloroethane	ND		0.50		ug/L			10/19/17 09:35	1
Carbon tetrachloride	ND		0.50		ug/L			10/19/17 09:35	1
1,2-Dichloroethane	ND		0.50		ug/L			10/19/17 09:35	1
Trichloroethene	ND		0.50		ug/L			10/19/17 09:35	1
1,2-Dichloropropane	ND		0.50		ug/L			10/19/17 09:35	1
Dichlorobromomethane	ND		0.50		ug/L			10/19/17 09:35	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			10/19/17 09:35	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			10/19/17 09:35	1
1,1,2-Trichloroethane	ND		0.50		ug/L			10/19/17 09:35	1
Tetrachloroethene	ND		0.50		ug/L			10/19/17 09:35	1
Chlorodibromomethane	ND		0.50		ug/L			10/19/17 09:35	1
Chlorobenzene	ND		0.50		ug/L			10/19/17 09:35	1
Bromoform	ND		1.0		ug/L			10/19/17 09:35	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			10/19/17 09:35	1
1,3-Dichlorobenzene	ND		0.50		ug/L			10/19/17 09:35	1
1,4-Dichlorobenzene	ND		0.50		ug/L			10/19/17 09:35	1
1,2-Dichlorobenzene	ND		0.50		ug/L			10/19/17 09:35	1
Chloromethane	ND		1.0		ug/L			10/19/17 09:35	1
Bromomethane	ND		1.0		ug/L			10/19/17 09:35	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50		ug/L			10/19/17 09:35	1
EDB	ND		0.50		ug/L			10/19/17 09:35	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			10/19/17 09:35	1

TestAmerica Pleasanton

# QC Sample Results

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave

TestAmerica Job ID: 720-82540-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 720-232383/4**  
**Matrix: Water**  
**Analysis Batch: 232383**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Toluene-d8 (Surr)	99		70 - 130		10/19/17 09:35	1
4-Bromofluorobenzene	95		67 - 130		10/19/17 09:35	1
1,2-Dichloroethane-d4 (Surr)	101		72 - 130		10/19/17 09:35	1

**Lab Sample ID: LCS 720-232383/5**  
**Matrix: Water**  
**Analysis Batch: 232383**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.
							Limits
1,1-Dichloroethene	25.0	23.5		ug/L		94	64 - 128
1,1-Dichloroethane	25.0	26.3		ug/L		105	70 - 130
Dichlorodifluoromethane	25.0	22.8		ug/L		91	32 - 158
Vinyl chloride	25.0	26.4		ug/L		106	54 - 135
Chloroethane	25.0	25.4		ug/L		102	62 - 138
Trichlorofluoromethane	25.0	25.0		ug/L		100	66 - 132
Methylene Chloride	25.0	26.2		ug/L		105	70 - 147
trans-1,2-Dichloroethene	25.0	25.7		ug/L		103	68 - 130
cis-1,2-Dichloroethene	25.0	26.2		ug/L		105	70 - 130
Chloroform	25.0	25.9		ug/L		103	70 - 130
1,1,1-Trichloroethane	25.0	26.9		ug/L		108	70 - 130
Carbon tetrachloride	25.0	27.1		ug/L		108	70 - 146
1,2-Dichloroethane	25.0	26.2		ug/L		105	61 - 132
Trichloroethene	25.0	25.6		ug/L		102	70 - 130
1,2-Dichloropropane	25.0	27.0		ug/L		108	70 - 130
Dichlorobromomethane	25.0	27.7		ug/L		111	70 - 130
trans-1,3-Dichloropropene	25.0	27.3		ug/L		109	70 - 140
cis-1,3-Dichloropropene	25.0	27.6		ug/L		110	70 - 130
1,1,2-Trichloroethane	25.0	28.0		ug/L		112	70 - 130
Tetrachloroethene	25.0	25.4		ug/L		102	70 - 130
Chlorodibromomethane	25.0	26.9		ug/L		108	70 - 145
Chlorobenzene	25.0	26.4		ug/L		106	70 - 130
Bromoform	25.0	25.9		ug/L		104	68 - 136
1,1,2,2-Tetrachloroethane	25.0	29.1		ug/L		116	70 - 130
1,3-Dichlorobenzene	25.0	26.1		ug/L		104	70 - 130
1,4-Dichlorobenzene	25.0	26.1		ug/L		104	70 - 130
1,2-Dichlorobenzene	25.0	25.8		ug/L		103	70 - 130
Chloromethane	25.0	25.3		ug/L		101	52 - 175
Bromomethane	25.0	24.6		ug/L		98	43 - 151
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	24.1		ug/L		97	42 - 162
EDB	25.0	27.3		ug/L		109	70 - 130
1,2,4-Trichlorobenzene	25.0	26.9		ug/L		108	70 - 130

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	101		70 - 130
4-Bromofluorobenzene	94		67 - 130
1,2-Dichloroethane-d4 (Surr)	98		72 - 130

TestAmerica Pleasanton

# QC Sample Results

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave

TestAmerica Job ID: 720-82540-1

**Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)**

Lab Sample ID: LCSD 720-232383/6

Matrix: Water

Analysis Batch: 232383

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	25.0	24.0		ug/L		96	64 - 128	2	20
1,1-Dichloroethane	25.0	26.6		ug/L		106	70 - 130	1	20
Dichlorodifluoromethane	25.0	21.9		ug/L		88	32 - 158	4	20
Vinyl chloride	25.0	25.7		ug/L		103	54 - 135	3	20
Chloroethane	25.0	24.9		ug/L		100	62 - 138	2	20
Trichlorofluoromethane	25.0	25.4		ug/L		102	66 - 132	1	20
Methylene Chloride	25.0	26.2		ug/L		105	70 - 147	0	20
trans-1,2-Dichloroethene	25.0	26.0		ug/L		104	68 - 130	1	20
cis-1,2-Dichloroethene	25.0	26.7		ug/L		107	70 - 130	2	20
Chloroform	25.0	26.2		ug/L		105	70 - 130	1	20
1,1,1-Trichloroethane	25.0	27.6		ug/L		110	70 - 130	2	20
Carbon tetrachloride	25.0	27.7		ug/L		111	70 - 146	2	20
1,2-Dichloroethane	25.0	25.9		ug/L		104	61 - 132	1	20
Trichloroethene	25.0	25.9		ug/L		104	70 - 130	1	20
1,2-Dichloropropane	25.0	26.9		ug/L		107	70 - 130	0	20
Dichlorobromomethane	25.0	28.0		ug/L		112	70 - 130	1	20
trans-1,3-Dichloropropene	25.0	26.8		ug/L		107	70 - 140	2	20
cis-1,3-Dichloropropene	25.0	27.1		ug/L		108	70 - 130	2	20
1,1,2-Trichloroethane	25.0	27.0		ug/L		108	70 - 130	4	20
Tetrachloroethene	25.0	26.6		ug/L		107	70 - 130	5	20
Chlorodibromomethane	25.0	26.4		ug/L		106	70 - 145	2	20
Chlorobenzene	25.0	26.4		ug/L		106	70 - 130	0	20
Bromoform	25.0	24.6		ug/L		98	68 - 136	5	20
1,1,2,2-Tetrachloroethane	25.0	27.6		ug/L		110	70 - 130	5	20
1,3-Dichlorobenzene	25.0	26.2		ug/L		105	70 - 130	0	20
1,4-Dichlorobenzene	25.0	26.1		ug/L		104	70 - 130	0	20
1,2-Dichlorobenzene	25.0	26.0		ug/L		104	70 - 130	1	20
Chloromethane	25.0	24.5		ug/L		98	52 - 175	3	20
Bromomethane	25.0	25.0		ug/L		100	43 - 151	1	20
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	24.8		ug/L		99	42 - 162	3	20
EDB	25.0	26.9		ug/L		108	70 - 130	2	20
1,2,4-Trichlorobenzene	25.0	26.4		ug/L		106	70 - 130	2	20

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	101		70 - 130
4-Bromofluorobenzene	94		67 - 130
1,2-Dichloroethane-d4 (Surr)	97		72 - 130

TestAmerica Pleasanton

# QC Association Summary

Client: AECOM, Inc.  
 Project/Site: Former TRW Microwave

TestAmerica Job ID: 720-82540-1

## GC/MS VOA

### Analysis Batch: 232310

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-82540-1	TRIPBLANK-J6038-101217	Total/NA	Water	8260B	
720-82540-2	J6038-T21B-101217	Total/NA	Water	8260B	
720-82540-3	J6038-T17A-101217	Total/NA	Water	8260B	
720-82540-4	J6038-T17B-101217	Total/NA	Water	8260B	
720-82540-6	J6038-T8A-101217	Total/NA	Water	8260B	
MB 720-232310/4	Method Blank	Total/NA	Water	8260B	
LCS 720-232310/5	Lab Control Sample	Total/NA	Water	8260B	
LCSD 720-232310/6	Lab Control Sample Dup	Total/NA	Water	8260B	
720-82540-3 MS	J6038-T17A-101217	Total/NA	Water	8260B	
720-82540-3 MSD	J6038-T17A-101217	Total/NA	Water	8260B	

### Analysis Batch: 232319

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-82540-5	J6038-38S-101217	Total/NA	Water	8260B	
MB 720-232319/4	Method Blank	Total/NA	Water	8260B	
LCS 720-232319/5	Lab Control Sample	Total/NA	Water	8260B	
LCSD 720-232319/6	Lab Control Sample Dup	Total/NA	Water	8260B	

### Analysis Batch: 232383

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-82540-2	J6038-T21B-101217	Total/NA	Water	8260B	
MB 720-232383/4	Method Blank	Total/NA	Water	8260B	
LCS 720-232383/5	Lab Control Sample	Total/NA	Water	8260B	
LCSD 720-232383/6	Lab Control Sample Dup	Total/NA	Water	8260B	

# Lab Chronicle

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave

TestAmerica Job ID: 720-82540-1

Client Sample ID: TRIPBLANK-J6038-101217

Lab Sample ID: 720-82540-1

Date Collected: 10/12/17 07:00

Matrix: Water

Date Received: 10/12/17 17:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	232310	10/18/17 14:44	JRM	TAL PLS

Client Sample ID: J6038-T21B-101217

Lab Sample ID: 720-82540-2

Date Collected: 10/12/17 07:56

Matrix: Water

Date Received: 10/12/17 17:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	232310	10/18/17 16:48	JRM	TAL PLS
Total/NA	Analysis	8260B		10	232383	10/19/17 14:04	JRM	TAL PLS

Client Sample ID: J6038-T17A-101217

Lab Sample ID: 720-82540-3

Date Collected: 10/12/17 08:41

Matrix: Water

Date Received: 10/12/17 17:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	232310	10/18/17 15:18	JRM	TAL PLS

Client Sample ID: J6038-T17B-101217

Lab Sample ID: 720-82540-4

Date Collected: 10/12/17 09:18

Matrix: Water

Date Received: 10/12/17 17:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		10	232310	10/18/17 16:18	JRM	TAL PLS

Client Sample ID: J6038-38S-101217

Lab Sample ID: 720-82540-5

Date Collected: 10/12/17 10:18

Matrix: Water

Date Received: 10/12/17 17:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	232319	10/18/17 18:12	A1C	TAL PLS

Client Sample ID: J6038-T8A-101217

Lab Sample ID: 720-82540-6

Date Collected: 10/12/17 11:05

Matrix: Water

Date Received: 10/12/17 17:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	232310	10/18/17 15:48	JRM	TAL PLS

**Laboratory References:**

TAL PLS = TestAmerica Pleasanton, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919

TestAmerica Pleasanton

# Accreditation/Certification Summary

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave

TestAmerica Job ID: 720-82540-1

## Laboratory: TestAmerica Pleasanton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	2496	01-31-18

# Method Summary

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave

TestAmerica Job ID: 720-82540-1

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Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PLS

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**Protocol References:**

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL PLS = TestAmerica Pleasanton, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919



# Sample Summary

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave

TestAmerica Job ID: 720-82540-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
720-82540-1	TRIPBLANK-J6038-101217	Water	10/12/17 07:00	10/12/17 17:40
720-82540-2	J6038-T21B-101217	Water	10/12/17 07:56	10/12/17 17:40
720-82540-3	J6038-T17A-101217	Water	10/12/17 08:41	10/12/17 17:40
720-82540-4	J6038-T17B-101217	Water	10/12/17 09:18	10/12/17 17:40
720-82540-5	J6038-38S-101217	Water	10/12/17 10:18	10/12/17 17:40
720-82540-6	J6038-T8A-101217	Water	10/12/17 11:05	10/12/17 17:40

TestAmerica Pleasanton



## Login Sample Receipt Checklist

Client: AECOM, Inc.

Job Number: 720-82540-1

**Login Number: 82540**

**List Source: TestAmerica Pleasanton**

**List Number: 1**

**Creator: Bullock, Tracy**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	False	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

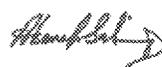
## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.  
TestAmerica Pleasanton  
1220 Quarry Lane  
Pleasanton, CA 94566  
Tel: (925)484-1919

TestAmerica Job ID: 720-82573-1  
Client Project/Site: Former TRW Microwave, Sunnyvale

For:  
AECOM, Inc.  
999 Town & Country Road  
4th Floor  
Orange, California 92868

Attn: Holly Holbrook



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Authorized for release by:  
10/20/2017 3:55:20 PM

Afsaneh Salimpour, Senior Project Manager  
(925)484-1919  
afsaneh.salimpour@testamericainc.com

### LINKS

Review your project  
results through  
**Total Access**

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Expert**

Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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# Definitions/Glossary

Client: AECOM, Inc.

TestAmerica Job ID: 720-82573-1

Project/Site: Former TRW Microwave, Sunnyvale

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
E	Result exceeded calibration range.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

TestAmerica Pleasanton

# Case Narrative

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave, Sunnyvale

TestAmerica Job ID: 720-82573-1

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**Job ID: 720-82573-1**

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**Laboratory: TestAmerica Pleasanton**

**Narrative**

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**Job Narrative**  
**720-82573-1**

**Comments**

No additional comments.

**Receipt**

The samples were received on 10/13/2017 5:25 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.9° C.

**GC/MS VOA**

Method(s) 8260B: The following volatile sample was analyzed with significant headspace in the sample Container(s): J6038-T12C-101317 (720-82573-6). Significant headspace is defined as a bubble greater than 6 mm in diameter.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.



# Detection Summary

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave, Sunnyvale

TestAmerica Job ID: 720-82573-1

Client Sample ID: TRIPBLANK-J6038-101317

Lab Sample ID: 720-82573-1

No Detections.

Client Sample ID: J6038-T10C-101317

Lab Sample ID: 720-82573-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	650		25		ug/L	50		8260B	Total/NA
Trichloroethene	740		25		ug/L	50		8260B	Total/NA
1,1,2-Trichloro-1,2,2-trifluoroethane	140		25		ug/L	50		8260B	Total/NA

Client Sample ID: J6038-T24B-101317

Lab Sample ID: 720-82573-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethene	1.5		0.50		ug/L	1		8260B	Total/NA
1,1-Dichloroethane	0.60		0.50		ug/L	1		8260B	Total/NA
Vinyl chloride	4.0		0.50		ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	1.4		0.50		ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	130		0.50		ug/L	1		8260B	Total/NA
Trichloroethene	63		0.50		ug/L	1		8260B	Total/NA

Client Sample ID: J6038-T22B-101317

Lab Sample ID: 720-82573-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethene	0.83		0.50		ug/L	1		8260B	Total/NA
Vinyl chloride	0.56		0.50		ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	3.3		0.50		ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	130		0.50		ug/L	1		8260B	Total/NA
Trichloroethene	97		0.50		ug/L	1		8260B	Total/NA
Tetrachloroethene	1.6		0.50		ug/L	1		8260B	Total/NA
1,2-Dichlorobenzene	3.0		0.50		ug/L	1		8260B	Total/NA

Client Sample ID: J6038-T4B-101317

Lab Sample ID: 720-82573-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethene	2.2		0.50		ug/L	1		8260B	Total/NA
Vinyl chloride	0.62		0.50		ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	2.7		0.50		ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	650		10		ug/L	20		8260B	Total/NA
Trichloroethene	5.2		0.50		ug/L	1		8260B	Total/NA

Client Sample ID: J6038-T12C-101317

Lab Sample ID: 720-82573-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethene	1.3		0.50		ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	0.86		0.50		ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	6.3		0.50		ug/L	1		8260B	Total/NA
Trichloroethene	140		0.50		ug/L	1		8260B	Total/NA
1,1,2-Trichloro-1,2,2-trifluoroethane	1.7		0.50		ug/L	1		8260B	Total/NA

Client Sample ID: J6038-T25A101317

Lab Sample ID: 720-82573-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethane	0.51		0.50		ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Pleasanton

# Detection Summary

Client: AECOM, Inc.

TestAmerica Job ID: 720-82573-1

Project/Site: Former TRW Microwave, Sunnyvale

Client Sample ID: J6038-T25A101317 (Continued)

Lab Sample ID: 720-82573-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	20		0.50		ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	2.0		0.50		ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	49		0.50		ug/L	1		8260B	Total/NA
Trichloroethene	57		0.50		ug/L	1		8260B	Total/NA
Tetrachloroethene	1.3		0.50		ug/L	1		8260B	Total/NA
1,2-Dichlorobenzene	2.8		0.50		ug/L	1		8260B	Total/NA

Client Sample ID: J6038-T15A-101317

Lab Sample ID: 720-82573-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethene	0.62		0.50		ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	2.5		0.50		ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	62		0.50		ug/L	1		8260B	Total/NA
Trichloroethene	110		0.50		ug/L	1		8260B	Total/NA
Tetrachloroethene	1.8		0.50		ug/L	1		8260B	Total/NA
1,2-Dichlorobenzene	1.4		0.50		ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Pleasanton

# Client Sample Results

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave, Sunnyvale

TestAmerica Job ID: 720-82573-1

Client Sample ID: TRIPBLANK-J6038-101317

Lab Sample ID: 720-82573-1

Date Collected: 10/13/17 07:00

Matrix: Water

Date Received: 10/13/17 17:25

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.50		ug/L			10/19/17 22:25	1
1,1-Dichloroethane	ND		0.50		ug/L			10/19/17 22:25	1
Dichlorodifluoromethane	ND		0.50		ug/L			10/19/17 22:25	1
Vinyl chloride	ND		0.50		ug/L			10/19/17 22:25	1
Chloroethane	ND		1.0		ug/L			10/19/17 22:25	1
Trichlorofluoromethane	ND		1.0		ug/L			10/19/17 22:25	1
Methylene Chloride	ND		5.0		ug/L			10/19/17 22:25	1
trans-1,2-Dichloroethene	ND		0.50		ug/L			10/19/17 22:25	1
cis-1,2-Dichloroethene	ND		0.50		ug/L			10/19/17 22:25	1
Chloroform	ND		1.0		ug/L			10/19/17 22:25	1
1,1,1-Trichloroethane	ND		0.50		ug/L			10/19/17 22:25	1
Carbon tetrachloride	ND		0.50		ug/L			10/19/17 22:25	1
1,2-Dichloroethane	ND		0.50		ug/L			10/19/17 22:25	1
Trichloroethene	ND		0.50		ug/L			10/19/17 22:25	1
1,2-Dichloropropane	ND		0.50		ug/L			10/19/17 22:25	1
Dichlorobromomethane	ND		0.50		ug/L			10/19/17 22:25	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			10/19/17 22:25	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			10/19/17 22:25	1
1,1,2-Trichloroethane	ND		0.50		ug/L			10/19/17 22:25	1
Tetrachloroethene	ND		0.50		ug/L			10/19/17 22:25	1
Chlorodibromomethane	ND		0.50		ug/L			10/19/17 22:25	1
Chlorobenzene	ND		0.50		ug/L			10/19/17 22:25	1
Bromoform	ND		1.0		ug/L			10/19/17 22:25	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			10/19/17 22:25	1
1,3-Dichlorobenzene	ND		0.50		ug/L			10/19/17 22:25	1
1,4-Dichlorobenzene	ND		0.50		ug/L			10/19/17 22:25	1
1,2-Dichlorobenzene	ND		0.50		ug/L			10/19/17 22:25	1
Chloromethane	ND		1.0		ug/L			10/19/17 22:25	1
Bromomethane	ND		1.0		ug/L			10/19/17 22:25	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50		ug/L			10/19/17 22:25	1
EDB	ND		0.50		ug/L			10/19/17 22:25	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			10/19/17 22:25	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Toluene-d8 (Surr)	98		70 - 130					10/19/17 22:25	1
4-Bromofluorobenzene	91		67 - 130					10/19/17 22:25	1
1,2-Dichloroethane-d4 (Surr)	103		72 - 130					10/19/17 22:25	1

TestAmerica Pleasanton

# Client Sample Results

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave, Sunnyvale

TestAmerica Job ID: 720-82573-1

Client Sample ID: J6038-T10C-101317

Lab Sample ID: 720-82573-2

Date Collected: 10/13/17 07:47

Matrix: Water

Date Received: 10/13/17 17:25

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		25		ug/L			10/20/17 01:55	50
1,1-Dichloroethane	ND		25		ug/L			10/20/17 01:55	50
Dichlorodifluoromethane	ND		25		ug/L			10/20/17 01:55	50
Vinyl chloride	ND		25		ug/L			10/20/17 01:55	50
Chloroethane	ND		50		ug/L			10/20/17 01:55	50
Trichlorofluoromethane	ND		50		ug/L			10/20/17 01:55	50
Methylene Chloride	ND		250		ug/L			10/20/17 01:55	50
trans-1,2-Dichloroethene	ND		25		ug/L			10/20/17 01:55	50
<b>cis-1,2-Dichloroethene</b>	<b>650</b>		25		ug/L			10/20/17 01:55	50
Chloroform	ND		50		ug/L			10/20/17 01:55	50
1,1,1-Trichloroethane	ND		25		ug/L			10/20/17 01:55	50
Carbon tetrachloride	ND		25		ug/L			10/20/17 01:55	50
1,2-Dichloroethane	ND		25		ug/L			10/20/17 01:55	50
<b>Trichloroethene</b>	<b>740</b>		25		ug/L			10/20/17 01:55	50
1,2-Dichloropropane	ND		25		ug/L			10/20/17 01:55	50
Dichlorobromomethane	ND		25		ug/L			10/20/17 01:55	50
trans-1,3-Dichloropropene	ND		25		ug/L			10/20/17 01:55	50
cis-1,3-Dichloropropene	ND		25		ug/L			10/20/17 01:55	50
1,1,2-Trichloroethane	ND		25		ug/L			10/20/17 01:55	50
Tetrachloroethene	ND		25		ug/L			10/20/17 01:55	50
Chlorodibromomethane	ND		25		ug/L			10/20/17 01:55	50
Chlorobenzene	ND		25		ug/L			10/20/17 01:55	50
Bromoform	ND		50		ug/L			10/20/17 01:55	50
1,1,2,2-Tetrachloroethane	ND		25		ug/L			10/20/17 01:55	50
1,3-Dichlorobenzene	ND		25		ug/L			10/20/17 01:55	50
1,4-Dichlorobenzene	ND		25		ug/L			10/20/17 01:55	50
1,2-Dichlorobenzene	ND		25		ug/L			10/20/17 01:55	50
Chloromethane	ND		50		ug/L			10/20/17 01:55	50
Bromomethane	ND		50		ug/L			10/20/17 01:55	50
<b>1,1,2-Trichloro-1,2,2-trifluoroethane</b>	<b>140</b>		25		ug/L			10/20/17 01:55	50
EDB	ND		25		ug/L			10/20/17 01:55	50
1,2,4-Trichlorobenzene	ND		50		ug/L			10/20/17 01:55	50
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	97		70 - 130					10/20/17 01:55	50
4-Bromofluorobenzene	89		67 - 130					10/20/17 01:55	50
1,2-Dichloroethane-d4 (Surr)	103		72 - 130					10/20/17 01:55	50

TestAmerica Pleasanton

# Client Sample Results

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave, Sunnyvale

TestAmerica Job ID: 720-82573-1

Client Sample ID: J6038-T24B-101317

Lab Sample ID: 720-82573-3

Date Collected: 10/13/17 08:44

Matrix: Water

Date Received: 10/13/17 17:25

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.5		0.50		ug/L			10/20/17 03:55	1
1,1-Dichloroethane	0.60		0.50		ug/L			10/20/17 03:55	1
Dichlorodifluoromethane	ND		0.50		ug/L			10/20/17 03:55	1
Vinyl chloride	4.0		0.50		ug/L			10/20/17 03:55	1
Chloroethane	ND		1.0		ug/L			10/20/17 03:55	1
Trichlorofluoromethane	ND		1.0		ug/L			10/20/17 03:55	1
Methylene Chloride	ND		5.0		ug/L			10/20/17 03:55	1
trans-1,2-Dichloroethene	1.4		0.50		ug/L			10/20/17 03:55	1
cis-1,2-Dichloroethene	130		0.50		ug/L			10/20/17 03:55	1
Chloroform	ND		1.0		ug/L			10/20/17 03:55	1
1,1,1-Trichloroethane	ND		0.50		ug/L			10/20/17 03:55	1
Carbon tetrachloride	ND		0.50		ug/L			10/20/17 03:55	1
1,2-Dichloroethane	ND		0.50		ug/L			10/20/17 03:55	1
Trichloroethene	63		0.50		ug/L			10/20/17 03:55	1
1,2-Dichloropropane	ND		0.50		ug/L			10/20/17 03:55	1
Dichlorobromomethane	ND		0.50		ug/L			10/20/17 03:55	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			10/20/17 03:55	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			10/20/17 03:55	1
1,1,2-Trichloroethane	ND		0.50		ug/L			10/20/17 03:55	1
Tetrachloroethene	ND		0.50		ug/L			10/20/17 03:55	1
Chlorodibromomethane	ND		0.50		ug/L			10/20/17 03:55	1
Chlorobenzene	ND		0.50		ug/L			10/20/17 03:55	1
Bromoform	ND		1.0		ug/L			10/20/17 03:55	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			10/20/17 03:55	1
1,3-Dichlorobenzene	ND		0.50		ug/L			10/20/17 03:55	1
1,4-Dichlorobenzene	ND		0.50		ug/L			10/20/17 03:55	1
1,2-Dichlorobenzene	ND		0.50		ug/L			10/20/17 03:55	1
Chloromethane	ND		1.0		ug/L			10/20/17 03:55	1
Bromomethane	ND		1.0		ug/L			10/20/17 03:55	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50		ug/L			10/20/17 03:55	1
EDB	ND		0.50		ug/L			10/20/17 03:55	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			10/20/17 03:55	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Toluene-d8 (Surr)	98		70 - 130					10/20/17 03:55	1
4-Bromofluorobenzene	89		67 - 130					10/20/17 03:55	1
1,2-Dichloroethane-d4 (Surr)	107		72 - 130					10/20/17 03:55	1

TestAmerica Pleasanton

# Client Sample Results

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave, Sunnyvale

TestAmerica Job ID: 720-82573-1

Client Sample ID: J6038-T22B-101317

Lab Sample ID: 720-82573-4

Date Collected: 10/13/17 09:32

Matrix: Water

Date Received: 10/13/17 17:25

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>1,1-Dichloroethene</b>	<b>0.83</b>		0.50		ug/L			10/20/17 04:25	1
1,1-Dichloroethane	ND		0.50		ug/L			10/20/17 04:25	1
Dichlorodifluoromethane	ND		0.50		ug/L			10/20/17 04:25	1
<b>Vinyl chloride</b>	<b>0.56</b>		0.50		ug/L			10/20/17 04:25	1
Chloroethane	ND		1.0		ug/L			10/20/17 04:25	1
Trichlorofluoromethane	ND		1.0		ug/L			10/20/17 04:25	1
Methylene Chloride	ND		5.0		ug/L			10/20/17 04:25	1
<b>trans-1,2-Dichloroethene</b>	<b>3.3</b>		0.50		ug/L			10/20/17 04:25	1
<b>cis-1,2-Dichloroethene</b>	<b>130</b>		0.50		ug/L			10/20/17 04:25	1
Chloroform	ND		1.0		ug/L			10/20/17 04:25	1
1,1,1-Trichloroethane	ND		0.50		ug/L			10/20/17 04:25	1
Carbon tetrachloride	ND		0.50		ug/L			10/20/17 04:25	1
1,2-Dichloroethane	ND		0.50		ug/L			10/20/17 04:25	1
<b>Trichloroethene</b>	<b>97</b>		0.50		ug/L			10/20/17 04:25	1
1,2-Dichloropropane	ND		0.50		ug/L			10/20/17 04:25	1
Dichlorobromomethane	ND		0.50		ug/L			10/20/17 04:25	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			10/20/17 04:25	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			10/20/17 04:25	1
1,1,2-Trichloroethane	ND		0.50		ug/L			10/20/17 04:25	1
<b>Tetrachloroethene</b>	<b>1.6</b>		0.50		ug/L			10/20/17 04:25	1
Chlorodibromomethane	ND		0.50		ug/L			10/20/17 04:25	1
Chlorobenzene	ND		0.50		ug/L			10/20/17 04:25	1
Bromoform	ND		1.0		ug/L			10/20/17 04:25	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			10/20/17 04:25	1
1,3-Dichlorobenzene	ND		0.50		ug/L			10/20/17 04:25	1
1,4-Dichlorobenzene	ND		0.50		ug/L			10/20/17 04:25	1
<b>1,2-Dichlorobenzene</b>	<b>3.0</b>		0.50		ug/L			10/20/17 04:25	1
Chloromethane	ND		1.0		ug/L			10/20/17 04:25	1
Bromomethane	ND		1.0		ug/L			10/20/17 04:25	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50		ug/L			10/20/17 04:25	1
EDB	ND		0.50		ug/L			10/20/17 04:25	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			10/20/17 04:25	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Toluene-d8 (Surr)	98		70 - 130					10/20/17 04:25	1
4-Bromofluorobenzene	89		67 - 130					10/20/17 04:25	1
1,2-Dichloroethane-d4 (Surr)	105		72 - 130					10/20/17 04:25	1

TestAmerica Pleasanton

# Client Sample Results

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave, Sunnyvale

TestAmerica Job ID: 720-82573-1

Client Sample ID: J6038-T4B-101317

Lab Sample ID: 720-82573-5

Date Collected: 10/13/17 10:43

Matrix: Water

Date Received: 10/13/17 17:25

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>1,1-Dichloroethene</b>	<b>2.2</b>		0.50		ug/L			10/19/17 23:25	1
1,1-Dichloroethane	ND		0.50		ug/L			10/19/17 23:25	1
Dichlorodifluoromethane	ND		0.50		ug/L			10/19/17 23:25	1
<b>Vinyl chloride</b>	<b>0.62</b>		0.50		ug/L			10/19/17 23:25	1
Chloroethane	ND		1.0		ug/L			10/19/17 23:25	1
Trichlorofluoromethane	ND		1.0		ug/L			10/19/17 23:25	1
Methylene Chloride	ND		5.0		ug/L			10/19/17 23:25	1
<b>trans-1,2-Dichloroethene</b>	<b>2.7</b>		0.50		ug/L			10/19/17 23:25	1
<b>cis-1,2-Dichloroethene</b>	<b>650</b>		10		ug/L			10/20/17 12:17	20
Chloroform	ND		1.0		ug/L			10/19/17 23:25	1
1,1,1-Trichloroethane	ND		0.50		ug/L			10/19/17 23:25	1
Carbon tetrachloride	ND		0.50		ug/L			10/19/17 23:25	1
1,2-Dichloroethane	ND		0.50		ug/L			10/19/17 23:25	1
<b>Trichloroethene</b>	<b>5.2</b>		0.50		ug/L			10/19/17 23:25	1
1,2-Dichloropropane	ND		0.50		ug/L			10/19/17 23:25	1
Dichlorobromomethane	ND		0.50		ug/L			10/19/17 23:25	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			10/19/17 23:25	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			10/19/17 23:25	1
1,1,2-Trichloroethane	ND		0.50		ug/L			10/19/17 23:25	1
Tetrachloroethene	ND		0.50		ug/L			10/19/17 23:25	1
Chlorodibromomethane	ND		0.50		ug/L			10/19/17 23:25	1
Chlorobenzene	ND		0.50		ug/L			10/19/17 23:25	1
Bromoform	ND		1.0		ug/L			10/19/17 23:25	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			10/19/17 23:25	1
1,3-Dichlorobenzene	ND		0.50		ug/L			10/19/17 23:25	1
1,4-Dichlorobenzene	ND		0.50		ug/L			10/19/17 23:25	1
1,2-Dichlorobenzene	ND		0.50		ug/L			10/19/17 23:25	1
Chloromethane	ND		1.0		ug/L			10/19/17 23:25	1
Bromomethane	ND		1.0		ug/L			10/19/17 23:25	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50		ug/L			10/19/17 23:25	1
EDB	ND		0.50		ug/L			10/19/17 23:25	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			10/19/17 23:25	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Toluene-d8 (Surr)	99		70 - 130					10/19/17 23:25	1
Toluene-d8 (Surr)	97		70 - 130					10/20/17 12:17	20
4-Bromofluorobenzene	92		67 - 130					10/19/17 23:25	1
4-Bromofluorobenzene	93		67 - 130					10/20/17 12:17	20
1,2-Dichloroethane-d4 (Surr)	109		72 - 130					10/19/17 23:25	1
1,2-Dichloroethane-d4 (Surr)	101		72 - 130					10/20/17 12:17	20

TestAmerica Pleasanton

# Client Sample Results

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave, Sunnyvale

TestAmerica Job ID: 720-82573-1

Client Sample ID: J6038-T12C-101317

Lab Sample ID: 720-82573-6

Date Collected: 10/13/17 12:19

Matrix: Water

Date Received: 10/13/17 17:25

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>1,1-Dichloroethene</b>	<b>1.3</b>		0.50		ug/L			10/19/17 23:55	1
1,1-Dichloroethane	ND		0.50		ug/L			10/19/17 23:55	1
Dichlorodifluoromethane	ND		0.50		ug/L			10/19/17 23:55	1
Vinyl chloride	ND		0.50		ug/L			10/19/17 23:55	1
Chloroethane	ND		1.0		ug/L			10/19/17 23:55	1
Trichlorofluoromethane	ND		1.0		ug/L			10/19/17 23:55	1
Methylene Chloride	ND		5.0		ug/L			10/19/17 23:55	1
<b>trans-1,2-Dichloroethene</b>	<b>0.86</b>		0.50		ug/L			10/19/17 23:55	1
<b>cis-1,2-Dichloroethene</b>	<b>6.3</b>		0.50		ug/L			10/20/17 12:47	1
Chloroform	ND		1.0		ug/L			10/19/17 23:55	1
1,1,1-Trichloroethane	ND		0.50		ug/L			10/19/17 23:55	1
Carbon tetrachloride	ND		0.50		ug/L			10/19/17 23:55	1
1,2-Dichloroethane	ND		0.50		ug/L			10/19/17 23:55	1
<b>Trichloroethene</b>	<b>140</b>		0.50		ug/L			10/19/17 23:55	1
1,2-Dichloropropane	ND		0.50		ug/L			10/19/17 23:55	1
Dichlorobromomethane	ND		0.50		ug/L			10/19/17 23:55	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			10/19/17 23:55	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			10/19/17 23:55	1
1,1,2-Trichloroethane	ND		0.50		ug/L			10/19/17 23:55	1
Tetrachloroethene	ND		0.50		ug/L			10/19/17 23:55	1
Chlorodibromomethane	ND		0.50		ug/L			10/19/17 23:55	1
Chlorobenzene	ND		0.50		ug/L			10/19/17 23:55	1
Bromoform	ND		1.0		ug/L			10/19/17 23:55	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			10/19/17 23:55	1
1,3-Dichlorobenzene	ND		0.50		ug/L			10/19/17 23:55	1
1,4-Dichlorobenzene	ND		0.50		ug/L			10/19/17 23:55	1
1,2-Dichlorobenzene	ND		0.50		ug/L			10/19/17 23:55	1
Chloromethane	ND		1.0		ug/L			10/19/17 23:55	1
Bromomethane	ND		1.0		ug/L			10/19/17 23:55	1
<b>1,1,2-Trichloro-1,2,2-trifluoroethane</b>	<b>1.7</b>		0.50		ug/L			10/19/17 23:55	1
EDB	ND		0.50		ug/L			10/19/17 23:55	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			10/19/17 23:55	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Toluene-d8 (Surr)	100		70 - 130					10/19/17 23:55	1
Toluene-d8 (Surr)	99		70 - 130					10/20/17 12:47	1
4-Bromofluorobenzene	90		67 - 130					10/19/17 23:55	1
4-Bromofluorobenzene	93		67 - 130					10/20/17 12:47	1
1,2-Dichloroethane-d4 (Surr)	105		72 - 130					10/19/17 23:55	1
1,2-Dichloroethane-d4 (Surr)	104		72 - 130					10/20/17 12:47	1

TestAmerica Pleasanton

# Client Sample Results

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave, Sunnyvale

TestAmerica Job ID: 720-82573-1

Client Sample ID: J6038-T25A101317

Lab Sample ID: 720-82573-7

Date Collected: 10/13/17 13:02

Matrix: Water

Date Received: 10/13/17 17:25

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.50		ug/L			10/20/17 00:25	1
<b>1,1-Dichloroethane</b>	<b>0.51</b>		0.50		ug/L			10/20/17 00:25	1
Dichlorodifluoromethane	ND		0.50		ug/L			10/20/17 00:25	1
<b>Vinyl chloride</b>	<b>20</b>		0.50		ug/L			10/20/17 00:25	1
Chloroethane	ND		1.0		ug/L			10/20/17 00:25	1
Trichlorofluoromethane	ND		1.0		ug/L			10/20/17 00:25	1
Methylene Chloride	ND		5.0		ug/L			10/20/17 00:25	1
<b>trans-1,2-Dichloroethene</b>	<b>2.0</b>		0.50		ug/L			10/20/17 00:25	1
<b>cis-1,2-Dichloroethene</b>	<b>49</b>		0.50		ug/L			10/20/17 00:25	1
Chloroform	ND		1.0		ug/L			10/20/17 00:25	1
1,1,1-Trichloroethane	ND		0.50		ug/L			10/20/17 00:25	1
Carbon tetrachloride	ND		0.50		ug/L			10/20/17 00:25	1
1,2-Dichloroethane	ND		0.50		ug/L			10/20/17 00:25	1
<b>Trichloroethene</b>	<b>57</b>		0.50		ug/L			10/20/17 00:25	1
1,2-Dichloropropane	ND		0.50		ug/L			10/20/17 00:25	1
Dichlorobromomethane	ND		0.50		ug/L			10/20/17 00:25	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			10/20/17 00:25	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			10/20/17 00:25	1
1,1,2-Trichloroethane	ND		0.50		ug/L			10/20/17 00:25	1
<b>Tetrachloroethene</b>	<b>1.3</b>		0.50		ug/L			10/20/17 00:25	1
Chlorodibromomethane	ND		0.50		ug/L			10/20/17 00:25	1
Chlorobenzene	ND		0.50		ug/L			10/20/17 00:25	1
Bromoform	ND		1.0		ug/L			10/20/17 00:25	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			10/20/17 00:25	1
1,3-Dichlorobenzene	ND		0.50		ug/L			10/20/17 00:25	1
1,4-Dichlorobenzene	ND		0.50		ug/L			10/20/17 00:25	1
<b>1,2-Dichlorobenzene</b>	<b>2.8</b>		0.50		ug/L			10/20/17 00:25	1
Chloromethane	ND		1.0		ug/L			10/20/17 00:25	1
Bromomethane	ND		1.0		ug/L			10/20/17 00:25	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50		ug/L			10/20/17 00:25	1
EDB	ND		0.50		ug/L			10/20/17 00:25	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			10/20/17 00:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	97		70 - 130		10/20/17 00:25	1
4-Bromofluorobenzene	90		67 - 130		10/20/17 00:25	1
1,2-Dichloroethane-d4 (Surr)	108		72 - 130		10/20/17 00:25	1

TestAmerica Pleasanton

# Client Sample Results

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave, Sunnyvale

TestAmerica Job ID: 720-82573-1

Client Sample ID: J6038-T15A-101317

Lab Sample ID: 720-82573-8

Date Collected: 10/13/17 13:36

Matrix: Water

Date Received: 10/13/17 17:25

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>1,1-Dichloroethene</b>	<b>0.62</b>		0.50		ug/L			10/20/17 00:55	1
1,1-Dichloroethane	ND		0.50		ug/L			10/20/17 00:55	1
Dichlorodifluoromethane	ND		0.50		ug/L			10/20/17 00:55	1
Vinyl chloride	ND		0.50		ug/L			10/20/17 00:55	1
Chloroethane	ND		1.0		ug/L			10/20/17 00:55	1
Trichlorofluoromethane	ND		1.0		ug/L			10/20/17 00:55	1
Methylene Chloride	ND		5.0		ug/L			10/20/17 00:55	1
<b>trans-1,2-Dichloroethene</b>	<b>2.5</b>		0.50		ug/L			10/20/17 00:55	1
<b>cis-1,2-Dichloroethene</b>	<b>62</b>		0.50		ug/L			10/20/17 00:55	1
Chloroform	ND		1.0		ug/L			10/20/17 00:55	1
1,1,1-Trichloroethane	ND		0.50		ug/L			10/20/17 00:55	1
Carbon tetrachloride	ND		0.50		ug/L			10/20/17 00:55	1
1,2-Dichloroethane	ND		0.50		ug/L			10/20/17 00:55	1
<b>Trichloroethene</b>	<b>110</b>		0.50		ug/L			10/20/17 00:55	1
1,2-Dichloropropane	ND		0.50		ug/L			10/20/17 00:55	1
Dichlorobromomethane	ND		0.50		ug/L			10/20/17 00:55	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			10/20/17 00:55	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			10/20/17 00:55	1
1,1,2-Trichloroethane	ND		0.50		ug/L			10/20/17 00:55	1
<b>Tetrachloroethene</b>	<b>1.8</b>		0.50		ug/L			10/20/17 00:55	1
Chlorodibromomethane	ND		0.50		ug/L			10/20/17 00:55	1
Chlorobenzene	ND		0.50		ug/L			10/20/17 00:55	1
Bromoform	ND		1.0		ug/L			10/20/17 00:55	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			10/20/17 00:55	1
1,3-Dichlorobenzene	ND		0.50		ug/L			10/20/17 00:55	1
1,4-Dichlorobenzene	ND		0.50		ug/L			10/20/17 00:55	1
<b>1,2-Dichlorobenzene</b>	<b>1.4</b>		0.50		ug/L			10/20/17 00:55	1
Chloromethane	ND		1.0		ug/L			10/20/17 00:55	1
Bromomethane	ND		1.0		ug/L			10/20/17 00:55	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50		ug/L			10/20/17 00:55	1
EDB	ND		0.50		ug/L			10/20/17 00:55	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			10/20/17 00:55	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Toluene-d8 (Surr)	98		70 - 130					10/20/17 00:55	1
4-Bromofluorobenzene	90		67 - 130					10/20/17 00:55	1
1,2-Dichloroethane-d4 (Surr)	104		72 - 130					10/20/17 00:55	1

TestAmerica Pleasanton

# Surrogate Summary

Client: AECOM, Inc.

TestAmerica Job ID: 720-82573-1

Project/Site: Former TRW Microwave, Sunnyvale

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		TOL (70-130)	BFB (67-130)	12DCE (72-130)
720-82573-1	TRIPBLANK-J6038-101317	98	91	103
720-82573-2	J6038-T10C-101317	97	89	103
720-82573-3	J6038-T24B-101317	98	89	107
720-82573-4	J6038-T22B-101317	98	89	105
720-82573-5	J6038-T4B-101317	99	92	109
720-82573-5	J6038-T4B-101317	97	93	101
720-82573-5 MS	J6038-T4B-101317	107	97	106
720-82573-5 MSD	J6038-T4B-101317	101	96	106
720-82573-6	J6038-T12C-101317	100	90	105
720-82573-6	J6038-T12C-101317	99	93	104
720-82573-7	J6038-T25A101317	97	90	108
720-82573-8	J6038-T15A-101317	98	90	104
LCS 720-232449/5	Lab Control Sample	101	98	97
LCS 720-232465/5	Lab Control Sample	101	98	103
LCSD 720-232449/6	Lab Control Sample Dup	101	96	97
LCSD 720-232465/6	Lab Control Sample Dup	102	96	99
MB 720-232449/4	Method Blank	98	92	103
MB 720-232465/4	Method Blank	98	91	100

**Surrogate Legend**

TOL = Toluene-d8 (Surr)

BFB = 4-Bromofluorobenzene

12DCE = 1,2-Dichloroethane-d4 (Surr)

# QC Sample Results

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave, Sunnyvale

TestAmerica Job ID: 720-82573-1

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Lab Sample ID: MB 720-232449/4

Matrix: Water

Analysis Batch: 232449

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.50		ug/L			10/19/17 19:55	1
1,1-Dichloroethane	ND		0.50		ug/L			10/19/17 19:55	1
Dichlorodifluoromethane	ND		0.50		ug/L			10/19/17 19:55	1
Vinyl chloride	ND		0.50		ug/L			10/19/17 19:55	1
Chloroethane	ND		1.0		ug/L			10/19/17 19:55	1
Trichlorofluoromethane	ND		1.0		ug/L			10/19/17 19:55	1
Methylene Chloride	ND		5.0		ug/L			10/19/17 19:55	1
trans-1,2-Dichloroethene	ND		0.50		ug/L			10/19/17 19:55	1
cis-1,2-Dichloroethene	ND		0.50		ug/L			10/19/17 19:55	1
Chloroform	ND		1.0		ug/L			10/19/17 19:55	1
1,1,1-Trichloroethane	ND		0.50		ug/L			10/19/17 19:55	1
Carbon tetrachloride	ND		0.50		ug/L			10/19/17 19:55	1
1,2-Dichloroethane	ND		0.50		ug/L			10/19/17 19:55	1
Trichloroethene	ND		0.50		ug/L			10/19/17 19:55	1
1,2-Dichloropropane	ND		0.50		ug/L			10/19/17 19:55	1
Dichlorobromomethane	ND		0.50		ug/L			10/19/17 19:55	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			10/19/17 19:55	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			10/19/17 19:55	1
1,1,2-Trichloroethane	ND		0.50		ug/L			10/19/17 19:55	1
Tetrachloroethene	ND		0.50		ug/L			10/19/17 19:55	1
Chlorodibromomethane	ND		0.50		ug/L			10/19/17 19:55	1
Chlorobenzene	ND		0.50		ug/L			10/19/17 19:55	1
Bromoform	ND		1.0		ug/L			10/19/17 19:55	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			10/19/17 19:55	1
1,3-Dichlorobenzene	ND		0.50		ug/L			10/19/17 19:55	1
1,4-Dichlorobenzene	ND		0.50		ug/L			10/19/17 19:55	1
1,2-Dichlorobenzene	ND		0.50		ug/L			10/19/17 19:55	1
Chloromethane	ND		1.0		ug/L			10/19/17 19:55	1
Bromomethane	ND		1.0		ug/L			10/19/17 19:55	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50		ug/L			10/19/17 19:55	1
EDB	ND		0.50		ug/L			10/19/17 19:55	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			10/19/17 19:55	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	98		70 - 130		10/19/17 19:55	1
4-Bromofluorobenzene	92		67 - 130		10/19/17 19:55	1
1,2-Dichloroethane-d4 (Surr)	103		72 - 130		10/19/17 19:55	1

Lab Sample ID: LCS 720-232449/5

Matrix: Water

Analysis Batch: 232449

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	25.0	25.0		ug/L		100	64 - 128
1,1-Dichloroethane	25.0	26.4		ug/L		106	70 - 130
Dichlorodifluoromethane	25.0	20.3		ug/L		81	32 - 158
Vinyl chloride	25.0	27.9		ug/L		112	54 - 135
Chloroethane	25.0	28.1		ug/L		112	62 - 138

TestAmerica Pleasanton

# QC Sample Results

Client: AECOM, Inc.

TestAmerica Job ID: 720-82573-1

Project/Site: Former TRW Microwave, Sunnyvale

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 720-232449/5**

**Matrix: Water**

**Analysis Batch: 232449**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Trichlorofluoromethane	25.0	27.4		ug/L		110	66 - 132
Methylene Chloride	25.0	26.0		ug/L		104	70 - 147
trans-1,2-Dichloroethene	25.0	26.0		ug/L		104	68 - 130
cis-1,2-Dichloroethene	25.0	26.4		ug/L		106	70 - 130
Chloroform	25.0	26.1		ug/L		104	70 - 130
1,1,1-Trichloroethane	25.0	27.6		ug/L		110	70 - 130
Carbon tetrachloride	25.0	27.9		ug/L		111	70 - 146
1,2-Dichloroethane	25.0	25.8		ug/L		103	61 - 132
Trichloroethene	25.0	26.0		ug/L		104	70 - 130
1,2-Dichloropropane	25.0	27.0		ug/L		108	70 - 130
Dichlorobromomethane	25.0	27.9		ug/L		111	70 - 130
trans-1,3-Dichloropropene	25.0	26.8		ug/L		107	70 - 140
cis-1,3-Dichloropropene	25.0	27.4		ug/L		110	70 - 130
1,1,2-Trichloroethane	25.0	27.0		ug/L		108	70 - 130
Tetrachloroethene	25.0	26.5		ug/L		106	70 - 130
Chlorodibromomethane	25.0	26.6		ug/L		107	70 - 145
Chlorobenzene	25.0	26.6		ug/L		106	70 - 130
Bromoform	25.0	25.2		ug/L		101	68 - 136
1,1,2,2-Tetrachloroethane	25.0	25.4		ug/L		102	70 - 130
1,3-Dichlorobenzene	25.0	26.4		ug/L		106	70 - 130
1,4-Dichlorobenzene	25.0	26.3		ug/L		105	70 - 130
1,2-Dichlorobenzene	25.0	25.7		ug/L		103	70 - 130
Chloromethane	25.0	23.4		ug/L		93	52 - 175
Bromomethane	25.0	27.2		ug/L		109	43 - 151
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	25.0		ug/L		100	42 - 162
EDB	25.0	26.2		ug/L		105	70 - 130
1,2,4-Trichlorobenzene	25.0	26.7		ug/L		107	70 - 130

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	101		70 - 130
4-Bromofluorobenzene	98		67 - 130
1,2-Dichloroethane-d4 (Surr)	97		72 - 130

**Lab Sample ID: LCSD 720-232449/6**

**Matrix: Water**

**Analysis Batch: 232449**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
1,1-Dichloroethene	25.0	23.7		ug/L		95	64 - 128	5	20
1,1-Dichloroethane	25.0	26.4		ug/L		106	70 - 130	0	20
Dichlorodifluoromethane	25.0	19.5		ug/L		78	32 - 158	4	20
Vinyl chloride	25.0	24.4		ug/L		98	54 - 135	13	20
Chloroethane	25.0	27.2		ug/L		109	62 - 138	3	20
Trichlorofluoromethane	25.0	25.0		ug/L		100	66 - 132	9	20
Methylene Chloride	25.0	26.2		ug/L		105	70 - 147	1	20
trans-1,2-Dichloroethene	25.0	26.0		ug/L		104	68 - 130	0	20
cis-1,2-Dichloroethene	25.0	26.4		ug/L		106	70 - 130	0	20

TestAmerica Pleasanton

# QC Sample Results

Client: AECOM, Inc.

TestAmerica Job ID: 720-82573-1

Project/Site: Former TRW Microwave, Sunnyvale

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 720-232449/6

Client Sample ID: Lab Control Sample Dup

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 232449

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Chloroform	25.0	26.2		ug/L		105	70 - 130	1	20
1,1,1-Trichloroethane	25.0	27.4		ug/L		110	70 - 130	1	20
Carbon tetrachloride	25.0	27.7		ug/L		111	70 - 146	1	20
1,2-Dichloroethane	25.0	26.1		ug/L		104	61 - 132	1	20
Trichloroethene	25.0	25.9		ug/L		103	70 - 130	1	20
1,2-Dichloropropane	25.0	27.1		ug/L		108	70 - 130	0	20
Dichlorobromomethane	25.0	28.1		ug/L		112	70 - 130	1	20
trans-1,3-Dichloropropene	25.0	27.1		ug/L		109	70 - 140	1	20
cis-1,3-Dichloropropene	25.0	27.5		ug/L		110	70 - 130	0	20
1,1,2-Trichloroethane	25.0	27.2		ug/L		109	70 - 130	1	20
Tetrachloroethene	25.0	26.0		ug/L		104	70 - 130	2	20
Chlorodibromomethane	25.0	26.8		ug/L		107	70 - 145	1	20
Chlorobenzene	25.0	26.4		ug/L		106	70 - 130	1	20
Bromoform	25.0	25.2		ug/L		101	68 - 136	0	20
1,1,2,2-Tetrachloroethane	25.0	26.1		ug/L		104	70 - 130	3	20
1,3-Dichlorobenzene	25.0	26.3		ug/L		105	70 - 130	1	20
1,4-Dichlorobenzene	25.0	26.3		ug/L		105	70 - 130	0	20
1,2-Dichlorobenzene	25.0	26.0		ug/L		104	70 - 130	1	20
Chloromethane	25.0	23.3		ug/L		93	52 - 175	0	20
Bromomethane	25.0	24.0		ug/L		96	43 - 151	12	20
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	24.5		ug/L		98	42 - 162	2	20
EDB	25.0	26.5		ug/L		106	70 - 130	1	20
1,2,4-Trichlorobenzene	25.0	26.7		ug/L		107	70 - 130	0	20

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
Toluene-d8 (Surr)	101		70 - 130
4-Bromofluorobenzene	96		67 - 130
1,2-Dichloroethane-d4 (Surr)	97		72 - 130

Lab Sample ID: 720-82573-5 MS

Client Sample ID: J6038-T4B-101317

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 232449

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	2.2		25.0	24.6		ug/L		90	60 - 140
1,1-Dichloroethane	ND		25.0	27.5		ug/L		109	60 - 140
Dichlorodifluoromethane	ND		25.0	19.0		ug/L		76	38 - 140
Vinyl chloride	0.62		25.0	22.2		ug/L		86	58 - 140
Chloroethane	ND		25.0	22.9		ug/L		92	51 - 140
Trichlorofluoromethane	ND		25.0	24.6		ug/L		98	60 - 140
Methylene Chloride	ND		25.0	27.6		ug/L		110	40 - 140
trans-1,2-Dichloroethene	2.7		25.0	28.3		ug/L		102	60 - 140
cis-1,2-Dichloroethene	630	E	25.0	616	E 4	ug/L		-43	60 - 140
Chloroform	ND		25.0	28.3		ug/L		113	60 - 140
1,1,1-Trichloroethane	ND		25.0	28.1		ug/L		112	60 - 140
Carbon tetrachloride	ND		25.0	27.9		ug/L		112	60 - 140
1,2-Dichloroethane	ND		25.0	29.0		ug/L		116	60 - 140

TestAmerica Pleasanton

# QC Sample Results

Client: AECOM, Inc.

TestAmerica Job ID: 720-82573-1

Project/Site: Former TRW Microwave, Sunnyvale

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 720-82573-5 MS

Client Sample ID: J6038-T4B-101317

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 232449

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier	Added	Result	Qualifier				
Trichloroethene	5.2		25.0	31.8		ug/L		107	60 - 140
1,2-Dichloropropane	ND		25.0	28.9		ug/L		116	60 - 140
Dichlorobromomethane	ND		25.0	30.0		ug/L		120	60 - 140
trans-1,3-Dichloropropene	ND		25.0	29.2		ug/L		117	60 - 140
cis-1,3-Dichloropropene	ND		25.0	28.8		ug/L		115	60 - 140
1,1,2-Trichloroethane	ND		25.0	31.7		ug/L		127	60 - 140
Tetrachloroethene	ND		25.0	27.1		ug/L		108	60 - 140
Chlorodibromomethane	ND		25.0	29.2		ug/L		117	60 - 140
Chlorobenzene	ND		25.0	27.2		ug/L		109	60 - 140
Bromoform	ND		25.0	23.5		ug/L		94	56 - 140
1,1,2,2-Tetrachloroethane	ND		25.0	28.3		ug/L		113	60 - 140
1,3-Dichlorobenzene	ND		25.0	26.7		ug/L		107	60 - 140
1,4-Dichlorobenzene	ND		25.0	26.8		ug/L		107	60 - 140
1,2-Dichlorobenzene	ND		25.0	27.3		ug/L		109	60 - 140
Chloromethane	ND		25.0	21.2		ug/L		85	52 - 140
Bromomethane	ND		25.0	23.2		ug/L		93	23 - 140
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		25.0	24.1		ug/L		96	60 - 140
EDB	ND		25.0	31.0		ug/L		124	60 - 140
1,2,4-Trichlorobenzene	ND		25.0	26.8		ug/L		107	60 - 140

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	107		70 - 130
4-Bromofluorobenzene	97		67 - 130
1,2-Dichloroethane-d4 (Surr)	106		72 - 130

Lab Sample ID: 720-82573-5 MSD

Client Sample ID: J6038-T4B-101317

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 232449

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
	Result	Qualifier	Added	Result	Qualifier						
1,1-Dichloroethene	2.2		25.0	24.3		ug/L		89	60 - 140	1	20
1,1-Dichloroethane	ND		25.0	27.3		ug/L		108	60 - 140	1	20
Dichlorodifluoromethane	ND		25.0	18.5		ug/L		74	38 - 140	3	20
Vinyl chloride	0.62		25.0	22.0		ug/L		86	58 - 140	1	20
Chloroethane	ND		25.0	24.7		ug/L		99	51 - 140	8	20
Trichlorofluoromethane	ND		25.0	23.8		ug/L		95	60 - 140	3	20
Methylene Chloride	ND		25.0	27.2		ug/L		109	40 - 140	2	20
trans-1,2-Dichloroethene	2.7		25.0	28.0		ug/L		101	60 - 140	1	20
cis-1,2-Dichloroethene	630	E	25.0	576	E 4	ug/L		-203	60 - 140	7	20
Chloroform	ND		25.0	27.9		ug/L		112	60 - 140	2	20
1,1,1-Trichloroethane	ND		25.0	27.3		ug/L		109	60 - 140	3	20
Carbon tetrachloride	ND		25.0	27.1		ug/L		108	60 - 140	3	20
1,2-Dichloroethane	ND		25.0	28.8		ug/L		115	60 - 140	1	20
Trichloroethene	5.2		25.0	31.1		ug/L		104	60 - 140	2	20
1,2-Dichloropropane	ND		25.0	28.6		ug/L		114	60 - 140	1	20
Dichlorobromomethane	ND		25.0	29.4		ug/L		118	60 - 140	2	20
trans-1,3-Dichloropropene	ND		25.0	26.9		ug/L		108	60 - 140	8	20

TestAmerica Pleasanton

# QC Sample Results

Client: AECOM, Inc.

TestAmerica Job ID: 720-82573-1

Project/Site: Former TRW Microwave, Sunnyvale

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 720-82573-5 MSD

Client Sample ID: J6038-T4B-101317

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 232449

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
cis-1,3-Dichloropropene	ND		25.0	26.9		ug/L		108	60 - 140	7	20
1,1,2-Trichloroethane	ND		25.0	30.4		ug/L		122	60 - 140	4	20
Tetrachloroethene	ND		25.0	25.6		ug/L		102	60 - 140	6	20
Chlorodibromomethane	ND		25.0	27.6		ug/L		111	60 - 140	5	20
Chlorobenzene	ND		25.0	26.7		ug/L		107	60 - 140	2	20
Bromoform	ND		25.0	22.9		ug/L		91	56 - 140	3	20
1,1,1,2-Tetrachloroethane	ND		25.0	29.2		ug/L		117	60 - 140	3	20
1,3-Dichlorobenzene	ND		25.0	26.3		ug/L		105	60 - 140	2	20
1,4-Dichlorobenzene	ND		25.0	26.4		ug/L		105	60 - 140	2	20
1,2-Dichlorobenzene	ND		25.0	27.1		ug/L		108	60 - 140	1	20
Chloromethane	ND		25.0	21.6		ug/L		87	52 - 140	2	20
Bromomethane	ND		25.0	23.1		ug/L		93	23 - 140	0	20
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		25.0	23.4		ug/L		94	60 - 140	3	20
EDB	ND		25.0	29.9		ug/L		119	60 - 140	4	20
1,2,4-Trichlorobenzene	ND		25.0	26.3		ug/L		105	60 - 140	2	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Toluene-d8 (Surr)	101		70 - 130
4-Bromofluorobenzene	96		67 - 130
1,2-Dichloroethane-d4 (Surr)	106		72 - 130

Lab Sample ID: MB 720-232465/4

Client Sample ID: Method Blank

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 232465

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.50		ug/L			10/20/17 09:48	1
1,1-Dichloroethane	ND		0.50		ug/L			10/20/17 09:48	1
Dichlorodifluoromethane	ND		0.50		ug/L			10/20/17 09:48	1
Vinyl chloride	ND		0.50		ug/L			10/20/17 09:48	1
Chloroethane	ND		1.0		ug/L			10/20/17 09:48	1
Trichlorofluoromethane	ND		1.0		ug/L			10/20/17 09:48	1
Methylene Chloride	ND		5.0		ug/L			10/20/17 09:48	1
trans-1,2-Dichloroethene	ND		0.50		ug/L			10/20/17 09:48	1
cis-1,2-Dichloroethene	ND		0.50		ug/L			10/20/17 09:48	1
Chloroform	ND		1.0		ug/L			10/20/17 09:48	1
1,1,1-Trichloroethane	ND		0.50		ug/L			10/20/17 09:48	1
Carbon tetrachloride	ND		0.50		ug/L			10/20/17 09:48	1
1,2-Dichloroethane	ND		0.50		ug/L			10/20/17 09:48	1
Trichloroethene	ND		0.50		ug/L			10/20/17 09:48	1
1,2-Dichloropropane	ND		0.50		ug/L			10/20/17 09:48	1
Dichlorobromomethane	ND		0.50		ug/L			10/20/17 09:48	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			10/20/17 09:48	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			10/20/17 09:48	1
1,1,2-Trichloroethane	ND		0.50		ug/L			10/20/17 09:48	1
Tetrachloroethene	ND		0.50		ug/L			10/20/17 09:48	1
Chlorodibromomethane	ND		0.50		ug/L			10/20/17 09:48	1

TestAmerica Pleasanton

# QC Sample Results

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave, Sunnyvale

TestAmerica Job ID: 720-82573-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 720-232465/4

Matrix: Water

Analysis Batch: 232465

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	ND		0.50		ug/L			10/20/17 09:48	1
Bromoform	ND		1.0		ug/L			10/20/17 09:48	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			10/20/17 09:48	1
1,3-Dichlorobenzene	ND		0.50		ug/L			10/20/17 09:48	1
1,4-Dichlorobenzene	ND		0.50		ug/L			10/20/17 09:48	1
1,2-Dichlorobenzene	ND		0.50		ug/L			10/20/17 09:48	1
Chloromethane	ND		1.0		ug/L			10/20/17 09:48	1
Bromomethane	ND		1.0		ug/L			10/20/17 09:48	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50		ug/L			10/20/17 09:48	1
EDB	ND		0.50		ug/L			10/20/17 09:48	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			10/20/17 09:48	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	98		70 - 130		10/20/17 09:48	1
4-Bromofluorobenzene	91		67 - 130		10/20/17 09:48	1
1,2-Dichloroethane-d4 (Surr)	100		72 - 130		10/20/17 09:48	1

Lab Sample ID: LCS 720-232465/5

Matrix: Water

Analysis Batch: 232465

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	25.0	23.1		ug/L		92	64 - 128
1,1-Dichloroethane	25.0	26.0		ug/L		104	70 - 130
Dichlorodifluoromethane	25.0	16.8		ug/L		67	32 - 158
Vinyl chloride	25.0	22.9		ug/L		92	54 - 135
Chloroethane	25.0	25.1		ug/L		100	62 - 138
Trichlorofluoromethane	25.0	23.7		ug/L		95	66 - 132
Methylene Chloride	25.0	26.4		ug/L		106	70 - 147
trans-1,2-Dichloroethene	25.0	25.5		ug/L		102	68 - 130
cis-1,2-Dichloroethene	25.0	26.3		ug/L		105	70 - 130
Chloroform	25.0	26.4		ug/L		106	70 - 130
1,1,1-Trichloroethane	25.0	27.1		ug/L		108	70 - 130
Carbon tetrachloride	25.0	27.5		ug/L		110	70 - 146
1,2-Dichloroethane	25.0	27.5		ug/L		110	61 - 132
Trichloroethene	25.0	26.1		ug/L		105	70 - 130
1,2-Dichloropropane	25.0	27.2		ug/L		109	70 - 130
Dichlorobromomethane	25.0	28.2		ug/L		113	70 - 130
trans-1,3-Dichloropropene	25.0	27.2		ug/L		109	70 - 140
cis-1,3-Dichloropropene	25.0	26.8		ug/L		107	70 - 130
1,1,2-Trichloroethane	25.0	29.6		ug/L		118	70 - 130
Tetrachloroethene	25.0	26.3		ug/L		105	70 - 130
Chlorodibromomethane	25.0	27.0		ug/L		108	70 - 145
Chlorobenzene	25.0	26.5		ug/L		106	70 - 130
Bromoform	25.0	24.0		ug/L		96	68 - 136
1,1,2,2-Tetrachloroethane	25.0	28.5		ug/L		114	70 - 130
1,3-Dichlorobenzene	25.0	26.1		ug/L		104	70 - 130
1,4-Dichlorobenzene	25.0	26.1		ug/L		104	70 - 130

TestAmerica Pleasanton

# QC Sample Results

Client: AECOM, Inc.

TestAmerica Job ID: 720-82573-1

Project/Site: Former TRW Microwave, Sunnyvale

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 720-232465/5**

**Matrix: Water**

**Analysis Batch: 232465**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichlorobenzene	25.0	26.3		ug/L		105	70 - 130
Chloromethane	25.0	21.1		ug/L		84	52 - 175
Bromomethane	25.0	23.7		ug/L		95	43 - 151
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	24.6		ug/L		98	42 - 162
EDB	25.0	29.3		ug/L		117	70 - 130
1,2,4-Trichlorobenzene	25.0	27.4		ug/L		110	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	101		70 - 130
4-Bromofluorobenzene	98		67 - 130
1,2-Dichloroethane-d4 (Surr)	103		72 - 130

**Lab Sample ID: LCSD 720-232465/6**

**Matrix: Water**

**Analysis Batch: 232465**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethane	25.0	23.8		ug/L		95	64 - 128	3	20
1,1-Dichloroethane	25.0	26.2		ug/L		105	70 - 130	1	20
Dichlorodifluoromethane	25.0	18.3		ug/L		73	32 - 158	9	20
Vinyl chloride	25.0	24.7		ug/L		99	54 - 135	8	20
Chloroethane	25.0	27.3		ug/L		109	62 - 138	8	20
Trichlorofluoromethane	25.0	27.1		ug/L		108	66 - 132	13	20
Methylene Chloride	25.0	26.3		ug/L		105	70 - 147	0	20
trans-1,2-Dichloroethene	25.0	26.0		ug/L		104	68 - 130	2	20
cis-1,2-Dichloroethene	25.0	26.3		ug/L		105	70 - 130	0	20
Chloroform	25.0	26.3		ug/L		105	70 - 130	0	20
1,1,1-Trichloroethane	25.0	27.5		ug/L		110	70 - 130	1	20
Carbon tetrachloride	25.0	27.9		ug/L		111	70 - 146	1	20
1,2-Dichloroethane	25.0	26.3		ug/L		105	61 - 132	4	20
Trichloroethene	25.0	26.2		ug/L		105	70 - 130	0	20
1,2-Dichloropropane	25.0	27.0		ug/L		108	70 - 130	1	20
Dichlorobromomethane	25.0	27.5		ug/L		110	70 - 130	3	20
trans-1,3-Dichloropropene	25.0	25.6		ug/L		102	70 - 140	6	20
cis-1,3-Dichloropropene	25.0	25.9		ug/L		103	70 - 130	3	20
1,1,2-Trichloroethane	25.0	27.7		ug/L		111	70 - 130	7	20
Tetrachloroethene	25.0	26.4		ug/L		106	70 - 130	0	20
Chlorodibromomethane	25.0	25.2		ug/L		101	70 - 145	7	20
Chlorobenzene	25.0	26.6		ug/L		106	70 - 130	0	20
Bromoform	25.0	21.0		ug/L		84	68 - 136	13	20
1,1,2,2-Tetrachloroethane	25.0	26.4		ug/L		106	70 - 130	8	20
1,3-Dichlorobenzene	25.0	26.2		ug/L		105	70 - 130	0	20
1,4-Dichlorobenzene	25.0	26.3		ug/L		105	70 - 130	1	20
1,2-Dichlorobenzene	25.0	26.1		ug/L		104	70 - 130	1	20
Chloromethane	25.0	22.1		ug/L		88	52 - 175	5	20
Bromomethane	25.0	26.0		ug/L		104	43 - 151	9	20

TestAmerica Pleasanton

# QC Sample Results

Client: AECOM, Inc.

TestAmerica Job ID: 720-82573-1

Project/Site: Former TRW Microwave, Sunnyvale

**Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)**

Lab Sample ID: LCSD 720-232465/6

Client Sample ID: Lab Control Sample Dup

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 232465

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	24.9		ug/L		100	42 - 162	1	20
EDB	25.0	27.2		ug/L		109	70 - 130	7	20
1,2,4-Trichlorobenzene	25.0	27.2		ug/L		109	70 - 130	1	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Toluene-d8 (Surr)	102		70 - 130
4-Bromofluorobenzene	96		67 - 130
1,2-Dichloroethane-d4 (Surr)	99		72 - 130

TestAmerica Pleasanton

# QC Association Summary

Client: AECOM, Inc.

TestAmerica Job ID: 720-82573-1

Project/Site: Former TRW Microwave, Sunnyvale

## GC/MS VOA

### Analysis Batch: 232449

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-82573-1	TRIPBLANK-J6038-101317	Total/NA	Water	8260B	
720-82573-2	J6038-T10C-101317	Total/NA	Water	8260B	
720-82573-3	J6038-T24B-101317	Total/NA	Water	8260B	
720-82573-4	J6038-T22B-101317	Total/NA	Water	8260B	
720-82573-5	J6038-T4B-101317	Total/NA	Water	8260B	
720-82573-6	J6038-T12C-101317	Total/NA	Water	8260B	
720-82573-7	J6038-T25A101317	Total/NA	Water	8260B	
720-82573-8	J6038-T15A-101317	Total/NA	Water	8260B	
MB 720-232449/4	Method Blank	Total/NA	Water	8260B	
LCS 720-232449/5	Lab Control Sample	Total/NA	Water	8260B	
LCSD 720-232449/6	Lab Control Sample Dup	Total/NA	Water	8260B	
720-82573-5 MS	J6038-T4B-101317	Total/NA	Water	8260B	
720-82573-5 MSD	J6038-T4B-101317	Total/NA	Water	8260B	

### Analysis Batch: 232465

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-82573-5	J6038-T4B-101317	Total/NA	Water	8260B	
720-82573-6	J6038-T12C-101317	Total/NA	Water	8260B	
MB 720-232465/4	Method Blank	Total/NA	Water	8260B	
LCS 720-232465/5	Lab Control Sample	Total/NA	Water	8260B	
LCSD 720-232465/6	Lab Control Sample Dup	Total/NA	Water	8260B	

# Lab Chronicle

Client: AECOM, Inc.

TestAmerica Job ID: 720-82573-1

Project/Site: Former TRW Microwave, Sunnyvale

**Client Sample ID: TRIPBLANK-J6038-101317**

**Lab Sample ID: 720-82573-1**

Date Collected: 10/13/17 07:00

Matrix: Water

Date Received: 10/13/17 17:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	232449	10/19/17 22:25	BAJ	TAL PLS

**Client Sample ID: J6038-T10C-101317**

**Lab Sample ID: 720-82573-2**

Date Collected: 10/13/17 07:47

Matrix: Water

Date Received: 10/13/17 17:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		50	232449	10/20/17 01:55	BAJ	TAL PLS

**Client Sample ID: J6038-T24B-101317**

**Lab Sample ID: 720-82573-3**

Date Collected: 10/13/17 08:44

Matrix: Water

Date Received: 10/13/17 17:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	232449	10/20/17 03:55	BAJ	TAL PLS

**Client Sample ID: J6038-T22B-101317**

**Lab Sample ID: 720-82573-4**

Date Collected: 10/13/17 09:32

Matrix: Water

Date Received: 10/13/17 17:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	232449	10/20/17 04:25	BAJ	TAL PLS

**Client Sample ID: J6038-T4B-101317**

**Lab Sample ID: 720-82573-5**

Date Collected: 10/13/17 10:43

Matrix: Water

Date Received: 10/13/17 17:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	232449	10/19/17 23:25	BAJ	TAL PLS
Total/NA	Analysis	8260B		20	232465	10/20/17 12:17	BAJ	TAL PLS

**Client Sample ID: J6038-T12C-101317**

**Lab Sample ID: 720-82573-6**

Date Collected: 10/13/17 12:19

Matrix: Water

Date Received: 10/13/17 17:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	232449	10/19/17 23:55	BAJ	TAL PLS
Total/NA	Analysis	8260B		1	232465	10/20/17 12:47	BAJ	TAL PLS

TestAmerica Pleasanton

# Lab Chronicle

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave, Sunnyvale

TestAmerica Job ID: 720-82573-1

Client Sample ID: J6038-T25A101317

Lab Sample ID: 720-82573-7

Date Collected: 10/13/17 13:02

Matrix: Water

Date Received: 10/13/17 17:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	232449	10/20/17 00:25	BAJ	TAL PLS

Client Sample ID: J6038-T15A-101317

Lab Sample ID: 720-82573-8

Date Collected: 10/13/17 13:36

Matrix: Water

Date Received: 10/13/17 17:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	232449	10/20/17 00:55	BAJ	TAL PLS

### Laboratory References:

TAL PLS = TestAmerica Pleasanton, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919

# Accreditation/Certification Summary

Client: AECOM, Inc.

TestAmerica Job ID: 720-82573-1

Project/Site: Former TRW Microwave, Sunnyvale

## Laboratory: TestAmerica Pleasanton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	2496	01-31-18

# Method Summary

Client: AECOM, Inc.

TestAmerica Job ID: 720-82573-1

Project/Site: Former TRW Microwave, Sunnyvale

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Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PLS

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**Protocol References:**

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL PLS = TestAmerica Pleasanton, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919



# Sample Summary

Client: AECOM, Inc.

TestAmerica Job ID: 720-82573-1

Project/Site: Former TRW Microwave, Sunnyvale

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
720-82573-1	TRIPBLANK-J6038-101317	Water	10/13/17 07:00	10/13/17 17:25
720-82573-2	J6038-T10C-101317	Water	10/13/17 07:47	10/13/17 17:25
720-82573-3	J6038-T24B-101317	Water	10/13/17 08:44	10/13/17 17:25
720-82573-4	J6038-T22B-101317	Water	10/13/17 09:32	10/13/17 17:25
720-82573-5	J6038-T4B-101317	Water	10/13/17 10:43	10/13/17 17:25
720-82573-6	J6038-T12C-101317	Water	10/13/17 12:19	10/13/17 17:25
720-82573-7	J6038-T25A101317	Water	10/13/17 13:02	10/13/17 17:25
720-82573-8	J6038-T15A-101317	Water	10/13/17 13:36	10/13/17 17:25

TestAmerica Pleasanton

# BLAINE

TECH SERVICES, INC

1680 ROGERS AVENUE  
 SAN JOSE, CALIFORNIA 95112-1105  
 FAX (408) 573-1771  
 PHONE (408) 573-0555

CHAIN OF CUSTODY **BTS # 171669-11111**

CLIENT **AECOM**

SITE **Former TRW Microwave**

**825 Stewart Dr., Sunnyvale, CA**

SAMPLE ID	DATE	TIME	MATRIX	SOIL #	H <sub>2</sub> O	TOTAL	CONTAINERS
70112/Mark- 36038-701317	10/13/17	0700	W	3			WAS DEC
36038-7100-101317		0747	W	3			
36038-7248-101317		0844	W	3			
36038-7248-101317		0932	W	3			
36038-748-101317		1043	W	3			
36038-7120-101317		1219	W	3			
36038-7257-101317		1302	W	3			
36038-7579-101317		1334	W	3			

C # COMPOSITE ALL CONTAINERS

CONDUCT ANALYSIS TO DETECT	RECEIVED BY	DATE	TIME
<del>DHC by PCR Method</del>	<i>[Signature]</i>	10-13-17	1405
<b>HVOCs by EPA Method 8260B</b>			

LAB **178490**

ALL ANALYSES MUST MEET SPECIFICATIONS AND DETECTION LIMITS SET BY CALIFORNIA DHS AND

EPA  
 LIA  
 OTHER

RWOCB REGION

SPECIAL INSTRUCTIONS

Invoice to: **NGC**

**720-82573**

DHS #

Report to: AECOM - Holly Holbrook  
 714.689.7215 - Holly.Holbrook@aecom.com



RESULTS NEEDED  
 NO LATER THAN

**Standard TAT**

SAMPLING COMPLETED	DATE	TIME	SAMPLING PERFORMED BY	RECEIVED BY	DATE	TIME	RECEIVED BY	DATE	TIME
	10-13-17	1405	<b>Mark McCell</b>	<i>[Signature]</i>	10/13/17	1405		10/13/17	1405
RELEASED BY				<i>[Signature]</i>					
RELEASED BY				<i>[Signature]</i>					
SHIPPED VIA									

## Login Sample Receipt Checklist

Client: AECOM, Inc.

Job Number: 720-82573-1

**Login Number: 82573**

**List Source: TestAmerica Pleasanton**

**List Number: 1**

**Creator: Alcantara, Michael A**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	False	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

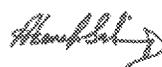
## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.  
TestAmerica Pleasanton  
1220 Quarry Lane  
Pleasanton, CA 94566  
Tel: (925)484-1919

TestAmerica Job ID: 720-82574-1  
Client Project/Site: Former TRW Microwave, Sunnyvale

For:  
AECOM, Inc.  
999 Town & Country Road  
4th Floor  
Orange, California 92868

Attn: Holly Holbrook



---

Authorized for release by:  
10/20/2017 2:49:36 PM

Afsaneh Salimpour, Senior Project Manager  
(925)484-1919  
afsaneh.salimpour@testamericainc.com

### LINKS

Review your project  
results through  
**Total Access**

Have a Question?

 **Ask  
The  
Expert**

Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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## Definitions/Glossary

Client: AECOM, Inc.

TestAmerica Job ID: 720-82574-1

Project/Site: Former TRW Microwave, Sunnyvale

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

TestAmerica Pleasanton

# Case Narrative

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave, Sunnyvale

TestAmerica Job ID: 720-82574-1

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**Job ID: 720-82574-1**

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**Laboratory: TestAmerica Pleasanton**

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**Narrative**

**Job Narrative**  
**720-82574-1**

**Comments**

No additional comments.

**Receipt**

The sample was received on 10/13/2017 5:25 PM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.9° C.

**GC/MS VOA**

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.



# Detection Summary

Client: AECOM, Inc.

TestAmerica Job ID: 720-82574-1

Project/Site: Former TRW Microwave, Sunnyvale

Client Sample ID: J6038-DRUMS-101317

Lab Sample ID: 720-82574-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethene	8.7		0.50		ug/L	1		8260B	Total/NA
1,1-Dichloroethane	5.4		0.50		ug/L	1		8260B	Total/NA
Vinyl chloride	1.3		0.50		ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	72		0.50		ug/L	1		8260B	Total/NA
1,1,1-Trichloroethane	25		0.50		ug/L	1		8260B	Total/NA
Trichloroethene	18		0.50		ug/L	1		8260B	Total/NA
Tetrachloroethene	1.8		0.50		ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Pleasanton

# Client Sample Results

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave, Sunnyvale

TestAmerica Job ID: 720-82574-1

Client Sample ID: J6038-DRUMS-101317

Lab Sample ID: 720-82574-1

Date Collected: 10/13/17 13:55

Matrix: Water

Date Received: 10/13/17 17:25

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	8.7		0.50		ug/L			10/20/17 01:25	1
1,1-Dichloroethane	5.4		0.50		ug/L			10/20/17 01:25	1
Dichlorodifluoromethane	ND		0.50		ug/L			10/20/17 01:25	1
Vinyl chloride	1.3		0.50		ug/L			10/20/17 01:25	1
Chloroethane	ND		1.0		ug/L			10/20/17 01:25	1
Trichlorofluoromethane	ND		1.0		ug/L			10/20/17 01:25	1
Methylene Chloride	ND		5.0		ug/L			10/20/17 01:25	1
trans-1,2-Dichloroethene	ND		0.50		ug/L			10/20/17 01:25	1
cis-1,2-Dichloroethene	72		0.50		ug/L			10/20/17 01:25	1
Chloroform	ND		1.0		ug/L			10/20/17 01:25	1
1,1,1-Trichloroethane	25		0.50		ug/L			10/20/17 01:25	1
Carbon tetrachloride	ND		0.50		ug/L			10/20/17 01:25	1
1,2-Dichloroethane	ND		0.50		ug/L			10/20/17 01:25	1
Trichloroethene	18		0.50		ug/L			10/20/17 01:25	1
1,2-Dichloropropane	ND		0.50		ug/L			10/20/17 01:25	1
Dichlorobromomethane	ND		0.50		ug/L			10/20/17 01:25	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			10/20/17 01:25	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			10/20/17 01:25	1
1,1,2-Trichloroethane	ND		0.50		ug/L			10/20/17 01:25	1
Tetrachloroethene	1.8		0.50		ug/L			10/20/17 01:25	1
Chlorodibromomethane	ND		0.50		ug/L			10/20/17 01:25	1
Chlorobenzene	ND		0.50		ug/L			10/20/17 01:25	1
Bromoform	ND		1.0		ug/L			10/20/17 01:25	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			10/20/17 01:25	1
1,3-Dichlorobenzene	ND		0.50		ug/L			10/20/17 01:25	1
1,4-Dichlorobenzene	ND		0.50		ug/L			10/20/17 01:25	1
1,2-Dichlorobenzene	ND		0.50		ug/L			10/20/17 01:25	1
Chloromethane	ND		1.0		ug/L			10/20/17 01:25	1
Bromomethane	ND		1.0		ug/L			10/20/17 01:25	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50		ug/L			10/20/17 01:25	1
EDB	ND		0.50		ug/L			10/20/17 01:25	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			10/20/17 01:25	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Toluene-d8 (Surr)	97		70 - 130					10/20/17 01:25	1
4-Bromofluorobenzene	90		67 - 130					10/20/17 01:25	1
1,2-Dichloroethane-d4 (Surr)	104		72 - 130					10/20/17 01:25	1

TestAmerica Pleasanton

# Surrogate Summary

Client: AECOM, Inc.

TestAmerica Job ID: 720-82574-1

Project/Site: Former TRW Microwave, Sunnyvale

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

## Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TOL	BFB	12DCE
		(70-130)	(67-130)	(72-130)
720-82574-1	J6038-DRUMS-101317	97	90	104
LCS 720-232449/5	Lab Control Sample	101	98	97
LCSD 720-232449/6	Lab Control Sample Dup	101	96	97
MB 720-232449/4	Method Blank	98	92	103

### Surrogate Legend

TOL = Toluene-d8 (Surr)

BFB = 4-Bromofluorobenzene

12DCE = 1,2-Dichloroethane-d4 (Surr)

TestAmerica Pleasanton

# QC Sample Results

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave, Sunnyvale

TestAmerica Job ID: 720-82574-1

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Lab Sample ID: MB 720-232449/4

Matrix: Water

Analysis Batch: 232449

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.50		ug/L			10/19/17 19:55	1
1,1-Dichloroethane	ND		0.50		ug/L			10/19/17 19:55	1
Dichlorodifluoromethane	ND		0.50		ug/L			10/19/17 19:55	1
Vinyl chloride	ND		0.50		ug/L			10/19/17 19:55	1
Chloroethane	ND		1.0		ug/L			10/19/17 19:55	1
Trichlorofluoromethane	ND		1.0		ug/L			10/19/17 19:55	1
Methylene Chloride	ND		5.0		ug/L			10/19/17 19:55	1
trans-1,2-Dichloroethene	ND		0.50		ug/L			10/19/17 19:55	1
cis-1,2-Dichloroethene	ND		0.50		ug/L			10/19/17 19:55	1
Chloroform	ND		1.0		ug/L			10/19/17 19:55	1
1,1,1-Trichloroethane	ND		0.50		ug/L			10/19/17 19:55	1
Carbon tetrachloride	ND		0.50		ug/L			10/19/17 19:55	1
1,2-Dichloroethane	ND		0.50		ug/L			10/19/17 19:55	1
Trichloroethene	ND		0.50		ug/L			10/19/17 19:55	1
1,2-Dichloropropane	ND		0.50		ug/L			10/19/17 19:55	1
Dichlorobromomethane	ND		0.50		ug/L			10/19/17 19:55	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			10/19/17 19:55	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			10/19/17 19:55	1
1,1,2-Trichloroethane	ND		0.50		ug/L			10/19/17 19:55	1
Tetrachloroethene	ND		0.50		ug/L			10/19/17 19:55	1
Chlorodibromomethane	ND		0.50		ug/L			10/19/17 19:55	1
Chlorobenzene	ND		0.50		ug/L			10/19/17 19:55	1
Bromoform	ND		1.0		ug/L			10/19/17 19:55	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			10/19/17 19:55	1
1,3-Dichlorobenzene	ND		0.50		ug/L			10/19/17 19:55	1
1,4-Dichlorobenzene	ND		0.50		ug/L			10/19/17 19:55	1
1,2-Dichlorobenzene	ND		0.50		ug/L			10/19/17 19:55	1
Chloromethane	ND		1.0		ug/L			10/19/17 19:55	1
Bromomethane	ND		1.0		ug/L			10/19/17 19:55	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50		ug/L			10/19/17 19:55	1
EDB	ND		0.50		ug/L			10/19/17 19:55	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			10/19/17 19:55	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	98		70 - 130		10/19/17 19:55	1
4-Bromofluorobenzene	92		67 - 130		10/19/17 19:55	1
1,2-Dichloroethane-d4 (Surr)	103		72 - 130		10/19/17 19:55	1

Lab Sample ID: LCS 720-232449/5

Matrix: Water

Analysis Batch: 232449

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	25.0	25.0		ug/L		100	64 - 128
1,1-Dichloroethane	25.0	26.4		ug/L		106	70 - 130
Dichlorodifluoromethane	25.0	20.3		ug/L		81	32 - 158
Vinyl chloride	25.0	27.9		ug/L		112	54 - 135
Chloroethane	25.0	28.1		ug/L		112	62 - 138

TestAmerica Pleasanton

# QC Sample Results

Client: AECOM, Inc.

TestAmerica Job ID: 720-82574-1

Project/Site: Former TRW Microwave, Sunnyvale

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 720-232449/5**

**Matrix: Water**

**Analysis Batch: 232449**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Trichlorofluoromethane	25.0	27.4		ug/L		110	66 - 132
Methylene Chloride	25.0	26.0		ug/L		104	70 - 147
trans-1,2-Dichloroethene	25.0	26.0		ug/L		104	68 - 130
cis-1,2-Dichloroethene	25.0	26.4		ug/L		106	70 - 130
Chloroform	25.0	26.1		ug/L		104	70 - 130
1,1,1-Trichloroethane	25.0	27.6		ug/L		110	70 - 130
Carbon tetrachloride	25.0	27.9		ug/L		111	70 - 146
1,2-Dichloroethane	25.0	25.8		ug/L		103	61 - 132
Trichloroethene	25.0	26.0		ug/L		104	70 - 130
1,2-Dichloropropane	25.0	27.0		ug/L		108	70 - 130
Dichlorobromomethane	25.0	27.9		ug/L		111	70 - 130
trans-1,3-Dichloropropene	25.0	26.8		ug/L		107	70 - 140
cis-1,3-Dichloropropene	25.0	27.4		ug/L		110	70 - 130
1,1,2-Trichloroethane	25.0	27.0		ug/L		108	70 - 130
Tetrachloroethene	25.0	26.5		ug/L		106	70 - 130
Chlorodibromomethane	25.0	26.6		ug/L		107	70 - 145
Chlorobenzene	25.0	26.6		ug/L		106	70 - 130
Bromoform	25.0	25.2		ug/L		101	68 - 136
1,1,2,2-Tetrachloroethane	25.0	25.4		ug/L		102	70 - 130
1,3-Dichlorobenzene	25.0	26.4		ug/L		106	70 - 130
1,4-Dichlorobenzene	25.0	26.3		ug/L		105	70 - 130
1,2-Dichlorobenzene	25.0	25.7		ug/L		103	70 - 130
Chloromethane	25.0	23.4		ug/L		93	52 - 175
Bromomethane	25.0	27.2		ug/L		109	43 - 151
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	25.0		ug/L		100	42 - 162
EDB	25.0	26.2		ug/L		105	70 - 130
1,2,4-Trichlorobenzene	25.0	26.7		ug/L		107	70 - 130

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	101		70 - 130
4-Bromofluorobenzene	98		67 - 130
1,2-Dichloroethane-d4 (Surr)	97		72 - 130

**Lab Sample ID: LCSD 720-232449/6**

**Matrix: Water**

**Analysis Batch: 232449**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
1,1-Dichloroethene	25.0	23.7		ug/L		95	64 - 128	5	20
1,1-Dichloroethane	25.0	26.4		ug/L		106	70 - 130	0	20
Dichlorodifluoromethane	25.0	19.5		ug/L		78	32 - 158	4	20
Vinyl chloride	25.0	24.4		ug/L		98	54 - 135	13	20
Chloroethane	25.0	27.2		ug/L		109	62 - 138	3	20
Trichlorofluoromethane	25.0	25.0		ug/L		100	66 - 132	9	20
Methylene Chloride	25.0	26.2		ug/L		105	70 - 147	1	20
trans-1,2-Dichloroethene	25.0	26.0		ug/L		104	68 - 130	0	20
cis-1,2-Dichloroethene	25.0	26.4		ug/L		106	70 - 130	0	20

TestAmerica Pleasanton

# QC Sample Results

Client: AECOM, Inc.

TestAmerica Job ID: 720-82574-1

Project/Site: Former TRW Microwave, Sunnyvale

**Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)**

Lab Sample ID: LCSD 720-232449/6

Client Sample ID: Lab Control Sample Dup

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 232449

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	
								RPD	Limit
Chloroform	25.0	26.2		ug/L		105	70 - 130	1	20
1,1,1-Trichloroethane	25.0	27.4		ug/L		110	70 - 130	1	20
Carbon tetrachloride	25.0	27.7		ug/L		111	70 - 146	1	20
1,2-Dichloroethane	25.0	26.1		ug/L		104	61 - 132	1	20
Trichloroethene	25.0	25.9		ug/L		103	70 - 130	1	20
1,2-Dichloropropane	25.0	27.1		ug/L		108	70 - 130	0	20
Dichlorobromomethane	25.0	28.1		ug/L		112	70 - 130	1	20
trans-1,3-Dichloropropene	25.0	27.1		ug/L		109	70 - 140	1	20
cis-1,3-Dichloropropene	25.0	27.5		ug/L		110	70 - 130	0	20
1,1,2-Trichloroethane	25.0	27.2		ug/L		109	70 - 130	1	20
Tetrachloroethene	25.0	26.0		ug/L		104	70 - 130	2	20
Chlorodibromomethane	25.0	26.8		ug/L		107	70 - 145	1	20
Chlorobenzene	25.0	26.4		ug/L		106	70 - 130	1	20
Bromoform	25.0	25.2		ug/L		101	68 - 136	0	20
1,1,2,2-Tetrachloroethane	25.0	26.1		ug/L		104	70 - 130	3	20
1,3-Dichlorobenzene	25.0	26.3		ug/L		105	70 - 130	1	20
1,4-Dichlorobenzene	25.0	26.3		ug/L		105	70 - 130	0	20
1,2-Dichlorobenzene	25.0	26.0		ug/L		104	70 - 130	1	20
Chloromethane	25.0	23.3		ug/L		93	52 - 175	0	20
Bromomethane	25.0	24.0		ug/L		96	43 - 151	12	20
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	24.5		ug/L		98	42 - 162	2	20
EDB	25.0	26.5		ug/L		106	70 - 130	1	20
1,2,4-Trichlorobenzene	25.0	26.7		ug/L		107	70 - 130	0	20

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	101		70 - 130
4-Bromofluorobenzene	96		67 - 130
1,2-Dichloroethane-d4 (Surr)	97		72 - 130

TestAmerica Pleasanton

# QC Association Summary

Client: AECOM, Inc.

TestAmerica Job ID: 720-82574-1

Project/Site: Former TRW Microwave, Sunnyvale

## GC/MS VOA

### Analysis Batch: 232449

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-82574-1	J6038-DRUMS-101317	Total/NA	Water	8260B	
MB 720-232449/4	Method Blank	Total/NA	Water	8260B	
LCS 720-232449/5	Lab Control Sample	Total/NA	Water	8260B	
LCSD 720-232449/6	Lab Control Sample Dup	Total/NA	Water	8260B	

# Lab Chronicle

Client: AECOM, Inc.  
Project/Site: Former TRW Microwave, Sunnyvale

TestAmerica Job ID: 720-82574-1

Client Sample ID: J6038-DRUMS-101317

Lab Sample ID: 720-82574-1

Date Collected: 10/13/17 13:55

Matrix: Water

Date Received: 10/13/17 17:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	232449	10/20/17 01:25	BAJ	TAL PLS

#### Laboratory References:

TAL PLS = TestAmerica Pleasanton, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919

# Accreditation/Certification Summary

Client: AECOM, Inc.

TestAmerica Job ID: 720-82574-1

Project/Site: Former TRW Microwave, Sunnyvale

## Laboratory: TestAmerica Pleasanton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	2496	01-31-18

# Method Summary

Client: AECOM, Inc.

TestAmerica Job ID: 720-82574-1

Project/Site: Former TRW Microwave, Sunnyvale

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Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PLS

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**Protocol References:**

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL PLS = TestAmerica Pleasanton, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919



# Sample Summary

Client: AECOM, Inc.

TestAmerica Job ID: 720-82574-1

Project/Site: Former TRW Microwave, Sunnyvale

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Lab Sample ID	Client Sample ID	Matrix	Collected	Received
720-82574-1	J6038-DRUMS-101317	Water	10/13/17 13:55	10/13/17 17:25

---

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13**
- 14
- 15

# BLAINE

TECH SERVICES, INC

1680 ROGERS AVENUE  
SAN JOSE, CALIFORNIA 95122-1105  
FAX (408) 573-7774  
PHONE (408) 573-0555

CHAIN OF CUSTODY **BTS # 171669-MM1**

CLIENT **AECOM**

SITE **Former TRW Microwave**

**825 Stewart Dr., Sunnyvale, CA**

DATE	TIME	INITIALS	DESCRIPTION
			SOIL
			CONTAINER NO

✓ = COMPLETE SITE ALL CONTAINERS

~~DIC by PCR Method~~  
**X HVOCs by EPA Method 8260B**

CONDUCT ANALYSIS TO DETECT

LAB

ALL ANALYSES MUST MEET SPECIFICATIONS AND DETECTION LIMITS SET BY CALIFORNIA DHS AND

- EPA
- LIA
- OTHER
- RWOCB REGION

SPECIAL INSTRUCTIONS

Invoice to: **NGC**

**720-82574**

Report to: **AECOM - Holly Holbrook**  
714.689.7215 - Holly.Holbrook@aecom.com



720-82574 Chain of Custody

RESULTS NEEDED  
NO LATER THAN

**Standard TAT**

SAMPLING COMPLETED	DATE	TIME	SAMPLING PERFORMED BY	DATE	TIME	RECEIVED BY	DATE	TIME	RECEIVED BY	DATE	TIME
	10-13-17		N/A, K N/C, G/loc-1	10-13-17	1405	[Signature]	10-13-17	1405	[Signature]	10-13-17	1405
				10-13-17	1455	[Signature]	10-13-17	1455	[Signature]	10-13-17	1455
				10-13-17	1725	[Signature]	10-13-17	1725	[Signature]	10-13-17	1725

SHIPPED VIA **30°C**



by # 178991

**Test America**

DHS #

## Login Sample Receipt Checklist

Client: AECOM, Inc.

Job Number: 720-82574-1

**Login Number: 82574**

**List Source: TestAmerica Pleasanton**

**List Number: 1**

**Creator: Alcantara, Michael A**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Pace Analytical Energy Services LLC  
220 William Pitt Way  
Pittsburgh, PA 15238  
Phone: (412) 826-5245  
Fax: (412) 826-3433

October 31, 2017

Holly Holbrook  
AECOM  
999 W Town and Country Rd  
Orange, CA 92868

RE: **FORMER TRW MICROWAVE**

*Pace Workorder: 24250*

Dear Holly Holbrook:

Enclosed are the analytical results for sample(s) received by the laboratory on Wednesday, October 11, 2017. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Ruth Welsh 10/31/2017  
Ruth.Welsh@pacelabs.com

Customer Service Representative

Enclosures

As a valued client we would appreciate your comments on our service.

Please email PAESfeedback@pacelabs.com.

Total Number of Pages 13

Report ID: 24250 - 985780

Page 1 of 10



**CERTIFICATE OF ANALYSIS**

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## LABORATORY ACCREDITATIONS & CERTIFICATIONS

<b>Accreditor:</b>	Pennsylvania Department of Environmental Protection, Bureau of Laboratories
<b>Accreditation ID:</b>	02-00538
<b>Scope:</b>	NELAP Non-Potable Water
<b>Accreditor:</b>	West Virginia Department of Environmental Protection, Division of Water and Waste Management
<b>Accreditation ID:</b>	395
<b>Scope:</b>	Non-Potable Water
<b>Accreditor:</b>	South Carolina Department of Health and Environmental Control, Office of Environmental Laboratory Certification
<b>Accreditation ID:</b>	89009003
<b>Scope:</b>	Clean Water Act (CWA); Resource Conservation and Recovery Act (RCRA)
<b>Accreditor:</b>	State of Virginia
<b>Accreditation ID:</b>	460201
<b>Scope:</b>	Non-Potable Water
<b>Accreditor:</b>	NELAP: New Jersey, Department of Environmental Protection
<b>Accreditation ID:</b>	PA026
<b>Scope:</b>	Non-Potable Water
<b>Accreditor:</b>	NELAP: New York, Department of Health Wadsworth Center
<b>Accreditation ID:</b>	11815
<b>Scope:</b>	Non-Potable Water
<b>Accreditor:</b>	State of Connecticut, Department of Public Health, Division of Environmental Health
<b>Accreditation ID:</b>	PH-0263
<b>Scope:</b>	Clean Water Act (CWA) Resource Conservation and Recovery Act (RCRA)
<b>Accreditor:</b>	NELAP: Texas, Commission on Environmental Quality
<b>Accreditation ID:</b>	T104704453-09-TX
<b>Scope:</b>	Non-Potable Water
<b>Accreditor:</b>	State of New Hampshire
<b>Accreditation ID:</b>	299409
<b>Scope:</b>	Non-potable water
<b>Accreditor:</b>	State of Georgia
<b>Accreditation ID:</b>	Chapter 391-3-26
<b>Scope:</b>	As per the Georgia EPD Rules and Regulations for Commercial Laboratories, PAES is accredited by the Pennsylvania Department of Environmental Protection Bureau of Laboratories under the National Environmental Laboratory Approval Program (NELAC).



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### SAMPLE SUMMARY

Workorder: 24250 FORMER TRW MICROWAVE

Lab ID	Sample ID	Matrix	Date Collected	Date Received
242500001	J6038-T23B-101017	Water	10/10/2017 07:35	10/11/2017 11:00
242500002	J6038-T9A-101017	Water	10/10/2017 09:53	10/11/2017 11:00
242500003	J6038-T10B-101017	Water	10/10/2017 11:22	10/11/2017 11:00
242500004	J6038-T20B-101017	Water	10/10/2017 13:59	10/11/2017 11:00
242500005	J6038-T7A-101017-1	Water	10/10/2017 14:48	10/11/2017 11:00



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### ANALYTICAL RESULTS

Workorder: 24250 FORMER TRW MICROWAVE

Lab ID: **242500001** Date Received: 10/11/2017 11:00 Matrix: Water  
 Sample ID: **J6038-T23B-101017** Date Collected: 10/10/2017 07:35

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
------------	---------	-------	-----	-----	----	----------	----	------------

**Compound Specific Isotopic - PAES**

Analysis Desc: AM24		Analytical Method: AM24						
Carbon 13 Isotope	<b>Complete</b>				1	10/25/2017 00:00	CS	
Chlorine 37 Isotope	<b>Complete</b>				1	10/25/2017 00:00	CS	



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### ANALYTICAL RESULTS

Workorder: 24250 FORMER TRW MICROWAVE

Lab ID: **242500002** Date Received: 10/11/2017 11:00 Matrix: Water  
 Sample ID: **J6038-T9A-101017** Date Collected: 10/10/2017 09:53

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
------------	---------	-------	-----	-----	----	----------	----	------------

**Compound Specific Isotopic - PAES**

Analysis Desc: AM24	Analytical Method: AM24							
Carbon 13 Isotope	<b>Complete</b>				1	10/25/2017 00:00	CS	
Chlorine 37 Isotope	<b>Complete</b>				1	10/25/2017 00:00	CS	



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**ANALYTICAL RESULTS**

Workorder: 24250 FORMER TRW MICROWAVE

Lab ID: **242500003** Date Received: 10/11/2017 11:00 Matrix: Water  
 Sample ID: **J6038-T10B-101017** Date Collected: 10/10/2017 11:22

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
------------	---------	-------	-----	-----	----	----------	----	------------

**Compound Specific Isotopic - PAES**

Analysis Desc: AM24	Analytical Method: AM24							
Carbon 13 Isotope	<b>Complete</b>				1	10/25/2017 00:00	CS	
Chlorine 37 Isotope	<b>Complete</b>				1	10/25/2017 00:00	CS	



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**ANALYTICAL RESULTS**

Workorder: 24250 FORMER TRW MICROWAVE

Lab ID: **242500004** Date Received: 10/11/2017 11:00 Matrix: Water  
 Sample ID: **J6038-T20B-101017** Date Collected: 10/10/2017 13:59

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
------------	---------	-------	-----	-----	----	----------	----	------------

**Compound Specific Isotopic - PAES**

Analysis Desc: AM24		Analytical Method: AM24						
Carbon 13 Isotope	<b>Complete</b>				1	10/25/2017 00:00	CS	
Chlorine 37 Isotope	<b>Complete</b>				1	10/25/2017 00:00	CS	



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### ANALYTICAL RESULTS

Workorder: 24250 FORMER TRW MICROWAVE

Lab ID: **242500005** Date Received: 10/11/2017 11:00 Matrix: Water  
 Sample ID: **J6038-T7A-101017-1** Date Collected: 10/10/2017 14:48

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
------------	---------	-------	-----	-----	----	----------	----	------------

**Compound Specific Isotopic - PAES**

Analysis Desc: AM24	Analytical Method: AM24							
Carbon 13 Isotope	<b>Complete</b>				1	10/25/2017 00:00	CS	
Chlorine 37 Isotope	<b>Complete</b>				1	10/25/2017 00:00	CS	



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## ANALYTICAL RESULTS QUALIFIERS

Workorder: 24250 FORMER TRW MICROWAVE

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### DEFINITIONS/QUALIFIERS

MDL	Method Detection Limit. Can be used synonymously with LOD; Limit Of Detection.
PQL	Practical Quantitation Limit. Can be used synonymously with LOQ; Limit Of Quantitation.
ND	Not detected at or above reporting limit.
DF	Dilution Factor.
S	Surrogate.
RPD	Relative Percent Difference.
% Rec	Percent Recovery.
U	Indicates the compound was analyzed for, but not detected at or above the noted concentration.
J	Estimated concentration greater than the set method detection limit (MDL) and less than the set reporting limit (PQL).



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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 24250 FORMER TRW MICROWAVE

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
242500001	J6038-T23B-101017			AM24	CSIA/1688
242500002	J6038-T9A-101017			AM24	CSIA/1688
242500003	J6038-T10B-101017			AM24	CSIA/1688
242500004	J6038-T20B-101017			AM24	CSIA/1688
242500005	J6038-T7A-101017-1			AM24	CSIA/1688



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Client: AECOM  
 999 W Town and Country Rd  
 Orange, CA 92868  
 Project: Former TRW Microwave  
 Project # 171009-MM1  
 Report to: Holly Holbrook  
 holly.holbrook@aecom.com

Pace Analytical Energy Services  
 220 William Pitt Way  
 Pittsburgh, PA 15238

412-826-5245

## Report of Isotope Analysis

Water samples for  $\delta^{13}\text{C}$  (‰, PDB) and  $\delta^{37}\text{Cl}$  (‰, SMOC) isotopic ratios

Lab Sample Number	Client's Sample ID	$\delta^{13}\text{C}$	$\delta^{13}\text{C}$	$\delta^{13}\text{C}$	$\delta^{37}\text{Cl}$
		VC	cDCE	TCE	TCE
242500001	J6038-T23B-101017	ND	-21.06	-20.80	-0.77
242500002	J6038-T9A-101017	ND	-18.72	-20.43	-0.70
242500003	J6038-T10B-101017	-14.74	-17.35	-20.46	-0.61
242500004	J6038-T20B-101017	ND	-22.29	-18.96	-0.86
242500005	J6038-T7A-101017	ND	-20.35	-19.47	-1.36

ND: Ratio Not Determined

N/A: Sample Not Analyzed

VC: Vinyl Chloride  
 cDCE: cis-Dichloroethene  
 TCE: Trichloroethene

Method: Compound Specific Isotope Analysis for  $^{13}\text{C}$  and  $^2\text{H}$  by GC-IRMS, for  $^{37}\text{Cl}$  by GC-qMS

Quality Control STDs	$\delta^{13}\text{C}$	$\delta^{13}\text{C}$	$\delta^{13}\text{C}$	$\delta^{37}\text{Cl}$
	VC	cDCE	TCE	TCE
QC-1	-27.55	-21.04	-25.95	1.05
QC-2	-26.99	-20.24	-25.37	0.73
Mean	-27.27	-20.64	-25.66	0.89
Analytical Precision ( $1\sigma$ )	0.39	0.57	0.41	0.23

# BLAINE

1680 ROGERS AVENUE  
 SAN JOSE, CALIFORNIA 95112-1105  
 FAX (408) 573-7771  
 PHONE (408) 573-0555

20250

CHAIN OF CUSTODY  
 CLIENT: AECOM  
 SITE: Former TRW Microwave  
 825 Stewart Dr., Sunnyvale, CA

BTS #171669-MM71

LAB Page/Microseeps  
 ALL ANALYSES MUST MEET SPECIFICATIONS AND DETECTION LIMITS SET BY CALIFORNIA DHS AND

DHS #  
 EPA  
 LIA  
 OTHER  
 RWOCB REGION

C = COMPOSITE ALL CONTAINERS

CONDUCT ANALYSIS TO DETECT  
 Total Organic Carbon  
 Sulfate  
 Methane, Ethane, Ethene  
 C12/C13 for TCE, eDCE, VC

SPECIAL INSTRUCTIONS  
 Invoice to: NGC  
 Report to: AECOM - Holly Holbrook  
 714.689.7215 - Holly.Holbrook@aecom.com

SAMPLE ID	DATE	TIME	MATRIX	CONTAINERS	TOTAL	STATUS	CONDITION	LAB SAMPLE #
36038-7238-10017	10-10-17	0735	W	9	9	X		
36038-791A-10017		0953	W	9	9	X		
36038-7108-10017		1122	W	9	9	X		
36038-7208-10017		1359	W	9	9	X		
36038-711A-10017		1448	W	9	9	X		

SAMPLING COMPLETED	DATE	TIME	SAMPLING PERFORMED BY	RESULTS NEEDED NO LATER THAN
	10-10-17	1500	Mark McCulloch	Standard TAT
RELEASED BY				
RELEASED BY	10-10-17	1630	ASD	10.11.17
RELEASED BY				

SHIPPED VIA	DATE SENT	TIME SENT	COOLER #
Fed Ex	10-10-17	1645	

## Cooler Receipt Form

Client Name: Accom Project: 171009-MM1 Lab Work Order: 24250

**A. Shipping/Container Information (circle appropriate response)**

Courier: FedEx UPS USPS Client Other: \_\_\_\_\_ Air bill Present: Yes No

Tracking Number: 770465983347

Custody Seal on Cooler/Box Present: Yes No Seals Intact: Yes No

Cooler/Box Packing Material: Bubble Wrap Absorbent Foam Other: \_\_\_\_\_

Type of Ice: Wet Blue None Ice Intact: Yes Melted

Cooler Temperature: 4.2°C Radiation Screened: Yes No Chain of Custody Present: Yes No

Comments: \_\_\_\_\_

**B. Laboratory Assignment/Log-in (check appropriate response)**

	YES	NO	N/A	Comment Reference non-Conformance
Chain of Custody properly filled out	✓			
Chain of Custody relinquished	✓			
Sampler Name & Signature on COC	✓			
Containers intact	✓			
Were samples in separate bags	✓			
Sample container labels match COC	✓			
Sample name/date and time collected	✓			
Sufficient volume provided	✓			
PAES containers used	✓			
Are containers properly preserved for the requested testing? (as labeled)	✓			
If an unknown preservation state, were containers checked? Exception: VOA's coliform			✓	If yes, see pH form.
Was volume for dissolved testing field filtered, as noted on the COC? Was volume received in a preserved container?			✓	
Headspace present?		✓		

Comments: \_\_\_\_\_

Cooler contents examined/received by: LY Date: 10.11.17

Project Manager Review: [Signature] Date: 10/11/17



Pace Analytical Energy Services LLC  
220 William Pitt Way  
Pittsburgh, PA 15238  
Phone: (412) 826-5245  
Fax: (412) 826-3433

October 25, 2017

Holly Holbrook  
AECOM  
999 W Town and Country Rd  
Orange, CA 92868

RE: **FORMER TRW MICROWAVE**

*Pace Workorder: 24260*

Dear Holly Holbrook:

Enclosed are the analytical results for sample(s) received by the laboratory on Thursday, October 12, 2017. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Ruth Welsh 10/25/2017  
Ruth.Welsh@pacelabs.com

Customer Service Representative

Enclosures

As a valued client we would appreciate your comments on our service.

Please email PAESfeedback@pacelabs.com.

Total Number of Pages 17

Report ID: 24260 - 983470

Page 1 of 14



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## LABORATORY ACCREDITATIONS & CERTIFICATIONS

<b>Accreditor:</b>	Pennsylvania Department of Environmental Protection, Bureau of Laboratories
<b>Accreditation ID:</b>	02-00538
<b>Scope:</b>	NELAP Non-Potable Water
<b>Accreditor:</b>	West Virginia Department of Environmental Protection, Division of Water and Waste Management
<b>Accreditation ID:</b>	395
<b>Scope:</b>	Non-Potable Water
<b>Accreditor:</b>	South Carolina Department of Health and Environmental Control, Office of Environmental Laboratory Certification
<b>Accreditation ID:</b>	89009003
<b>Scope:</b>	Clean Water Act (CWA); Resource Conservation and Recovery Act (RCRA)
<b>Accreditor:</b>	State of Virginia
<b>Accreditation ID:</b>	460201
<b>Scope:</b>	Non-Potable Water
<b>Accreditor:</b>	NELAP: New Jersey, Department of Environmental Protection
<b>Accreditation ID:</b>	PA026
<b>Scope:</b>	Non-Potable Water
<b>Accreditor:</b>	NELAP: New York, Department of Health Wadsworth Center
<b>Accreditation ID:</b>	11815
<b>Scope:</b>	Non-Potable Water
<b>Accreditor:</b>	State of Connecticut, Department of Public Health, Division of Environmental Health
<b>Accreditation ID:</b>	PH-0263
<b>Scope:</b>	Clean Water Act (CWA) Resource Conservation and Recovery Act (RCRA)
<b>Accreditor:</b>	NELAP: Texas, Commission on Environmental Quality
<b>Accreditation ID:</b>	T104704453-09-TX
<b>Scope:</b>	Non-Potable Water
<b>Accreditor:</b>	State of New Hampshire
<b>Accreditation ID:</b>	299409
<b>Scope:</b>	Non-potable water
<b>Accreditor:</b>	State of Georgia
<b>Accreditation ID:</b>	Chapter 391-3-26
<b>Scope:</b>	As per the Georgia EPD Rules and Regulations for Commercial Laboratories, PAES is accredited by the Pennsylvania Department of Environmental Protection Bureau of Laboratories under the National Environmental Laboratory Approval Program (NELAC).



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### SAMPLE SUMMARY

Workorder: 24260 FORMER TRW MICROWAVE

Lab ID	Sample ID	Matrix	Date Collected	Date Received
242600001	J6038-T14A-101117	Water	10/11/2017 10:17	10/12/2017 11:15
242600002	J6038-T19A-101117	Water	10/11/2017 12:46	10/12/2017 11:15
242600003	J6038-T23A-101117	Water	10/11/2017 13:41	10/12/2017 11:15
242600004	J6038-T13A-101117	Water	10/11/2017 14:35	10/12/2017 11:15



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## PROJECT SUMMARY

Workorder: 24260 FORMER TRW MICROWAVE

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### Workorder Comments

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The container pH for samples 24260 (0001, 0003) were measured as below the expected pH (< 10) for those samples preserved with trisodium phosphate, as assigned to PAES method AM20GAX.

### Batch Comments

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**Batch:** EACC/2581 - Anions by IC

The samples were not evaluated against duplicate and spike due to the concentration exceeding the calibration range associated with the assigned reference sample; 242590001. Batch acceptance based on laboratory control sample recovery.



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### ANALYTICAL RESULTS

Workorder: 24260 FORMER TRW MICROWAVE

Lab ID: **242600001** Date Received: 10/12/2017 11:15 Matrix: Water  
 Sample ID: **J6038-T14A-101117** Date Collected: 10/11/2017 10:17

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
------------	---------	-------	-----	-----	----	----------	----	------------

**EAcceptors - PAES**

Analysis Desc: SW-846 9056		Analytical Method: SW-846 9056						
Sulfate	<b>170</b>	mg/l	10	1.6	10	10/13/2017 18:02	MD	d

**RISK - PAES**

Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Methane	<b>270</b>	ug/l	0.50	0.020	1	10/25/2017 07:44	BW	n
Ethane	<b>0.029J</b>	ug/l	0.10	0.0070	1	10/25/2017 07:44	BW	n
Ethene	<b>0.97</b>	ug/l	0.10	0.0050	1	10/25/2017 07:44	BW	n

**Wet Chemistry - PAES**

Analysis Desc: SW-846 9060A		Analytical Method: SW-846 9060A						
Total Organic Carbon	<b>0.48J</b>	mg/L	1.0	0.085	1	10/18/2017 15:24	MD	



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### ANALYTICAL RESULTS

Workorder: 24260 FORMER TRW MICROWAVE

Lab ID: **242600002** Date Received: 10/12/2017 11:15 Matrix: Water  
 Sample ID: **J6038-T19A-101117** Date Collected: 10/11/2017 12:46

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
------------	---------	-------	-----	-----	----	----------	----	------------

**EAcceptors - PAES**

Analysis Desc: SW-846 9056	Analytical Method: SW-846 9056							
Sulfate	170	mg/l	10	1.6	10	10/13/2017 18:25	MD	d

**RISK - PAES**

Analysis Desc: AM20GAX	Analytical Method: AM20GAX							
Methane	84	ug/l	0.50	0.020	1	10/25/2017 07:54	BW	n
Ethane	0.11	ug/l	0.10	0.0070	1	10/25/2017 07:54	BW	n
Ethene	2.7	ug/l	0.10	0.0050	1	10/25/2017 07:54	BW	n

**Wet Chemistry - PAES**

Analysis Desc: SW-846 9060A	Analytical Method: SW-846 9060A							
Total Organic Carbon	1.3	mg/L	1.0	0.085	1	10/18/2017 16:30	MD	



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### ANALYTICAL RESULTS

Workorder: 24260 FORMER TRW MICROWAVE

Lab ID: **242600003** Date Received: 10/12/2017 11:15 Matrix: Water  
 Sample ID: **J6038-T23A-101117** Date Collected: 10/11/2017 13:41

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
------------	---------	-------	-----	-----	----	----------	----	------------

**EAcceptors - PAES**

Analysis Desc: SW-846 9056	Analytical Method: SW-846 9056							
Sulfate	<b>190</b>	mg/l	10	1.6	10	10/13/2017 18:47	MD	d

**RISK - PAES**

Analysis Desc: AM20GAX	Analytical Method: AM20GAX							
Methane	<b>560</b>	ug/l	0.50	0.020	1	10/25/2017 08:04	BW	n
Ethane	<b>1.1</b>	ug/l	0.10	0.0070	1	10/25/2017 08:04	BW	n
Ethene	<b>0.68</b>	ug/l	0.10	0.0050	1	10/25/2017 08:04	BW	n

**Wet Chemistry - PAES**

Analysis Desc: SW-846 9060A	Analytical Method: SW-846 9060A							
Total Organic Carbon	<b>0.53J</b>	mg/L	1.0	0.085	1	10/18/2017 17:03	MD	



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### ANALYTICAL RESULTS

Workorder: 24260 FORMER TRW MICROWAVE

Lab ID: **242600004** Date Received: 10/12/2017 11:15 Matrix: Water  
 Sample ID: **J6038-T13A-101117** Date Collected: 10/11/2017 14:35

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
------------	---------	-------	-----	-----	----	----------	----	------------

**EAcceptors - PAES**

Analysis Desc: SW-846 9056	Analytical Method: SW-846 9056							
Sulfate	<b>180</b>	mg/l	10	1.6	10	10/13/2017 19:10	MD	d

**RISK - PAES**

Analysis Desc: AM20GAX	Analytical Method: AM20GAX							
Methane	<b>170</b>	ug/l	0.50	0.020	1	10/25/2017 08:20	BW	n
Ethane	<b>0.021J</b>	ug/l	0.10	0.0070	1	10/25/2017 08:20	BW	n
Ethene	<b>0.57</b>	ug/l	0.10	0.0050	1	10/25/2017 08:20	BW	n

**Wet Chemistry - PAES**

Analysis Desc: SW-846 9060A	Analytical Method: SW-846 9060A							
Total Organic Carbon	<b>0.52J</b>	mg/L	1.0	0.085	1	10/18/2017 18:08	MD	



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## ANALYTICAL RESULTS QUALIFIERS

Workorder: 24260 FORMER TRW MICROWAVE

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### DEFINITIONS/QUALIFIERS

- MDL Method Detection Limit. Can be used synonymously with LOD; Limit Of Detection.
- PQL Practical Quantitation Limit. Can be used synonymously with LOQ; Limit Of Quantitation.
- ND Not detected at or above reporting limit.
- DF Dilution Factor.
- S Surrogate.
- RPD Relative Percent Difference.
- % Rec Percent Recovery.
- U Indicates the compound was analyzed for, but not detected at or above the noted concentration.
- J Estimated concentration greater than the set method detection limit (MDL) and less than the set reporting limit (PQL).
- 
- n The laboratory does not hold NELAP/TNI accreditation for this method or analyte.
- d The analyte concentration was determined from a dilution.



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**QUALITY CONTROL DATA**

Workorder: 24260 FORMER TRW MICROWAVE

QC Batch: EACC/2581 Analysis Method: SW-846 9056  
 QC Batch Method: SW-846 9056  
 Associated Lab Samples: 242600001, 242600002, 242600003, 242600004

METHOD BLANK: 51656

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
EAcceptors Sulfate	mg/l	1.0 U	1.0	

LABORATORY CONTROL SAMPLE: 51657

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
EAcceptors Sulfate	mg/l	10	9.9	99	80-120	



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**QUALITY CONTROL DATA**

Workorder: 24260 FORMER TRW MICROWAVE

QC Batch: WET/2242 Analysis Method: SW-846 9060A  
 QC Batch Method: SW-846 9060A  
 Associated Lab Samples: 242600001, 242600002, 242600003, 242600004

METHOD BLANK: 51761

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Wet Chemistry Total Organic Carbon	mg/L	1.0 U	1.0	

LABORATORY CONTROL SAMPLE: 51762

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Wet Chemistry Total Organic Carbon	mg/L	22	23	103	70-130	

MATRIX SPIKE SAMPLE: 51764 Original: 242600003

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Wet Chemistry Total Organic Carbon	mg/L	0.53	20	22	106	70-130	

SAMPLE DUPLICATE: 51763 Original: 242600001

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
Wet Chemistry Total Organic Carbon	mg/L	.48	.45	5	20	



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**QUALITY CONTROL DATA**

Workorder: 24260 FORMER TRW MICROWAVE

QC Batch: DISG/6447 Analysis Method: AM20GAX  
 QC Batch Method: AM20GAX  
 Associated Lab Samples: 242600001, 242600002, 242600003, 242600004

METHOD BLANK: 51844

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
RISK				
Methane	ug/l	0.50 U	0.50	n
Ethane	ug/l	0.10 U	0.10	n
Ethene	ug/l	0.10 U	0.10	n

LABORATORY CONTROL SAMPLE & LCSD: 51846 51848

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
RISK										
Methane	ug/l	750	760	760	101	102	80-120	0.99	20	n
Ethane	ug/l	38	38	38	100	100	80-120	0	20	n
Ethene	ug/l	35	35	34	99	98	80-120	1	20	n



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Pace Analytical Energy Services LLC  
220 William Pitt Way  
Pittsburgh, PA 15238  
Phone: (412) 826-5245  
Fax: (412) 826-3433

## QUALITY CONTROL DATA QUALIFIERS

Workorder: 24260 FORMER TRW MICROWAVE

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### QUALITY CONTROL PARAMETER QUALIFIERS

n The laboratory does not hold NELAP/TNI accreditation for this method or analyte.



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**QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Workorder: 24260 FORMER TRW MICROWAVE

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
242600001	J6038-T14A-101117			SW-846 9056	EACC/2581
242600002	J6038-T19A-101117			SW-846 9056	EACC/2581
242600003	J6038-T23A-101117			SW-846 9056	EACC/2581
242600004	J6038-T13A-101117			SW-846 9056	EACC/2581
242600001	J6038-T14A-101117			SW-846 9060A	WET/2242
242600002	J6038-T19A-101117			SW-846 9060A	WET/2242
242600003	J6038-T23A-101117			SW-846 9060A	WET/2242
242600004	J6038-T13A-101117			SW-846 9060A	WET/2242
242600001	J6038-T14A-101117			AM20GAX	DISG/6447
242600002	J6038-T19A-101117			AM20GAX	DISG/6447
242600003	J6038-T23A-101117			AM20GAX	DISG/6447
242600004	J6038-T13A-101117			AM20GAX	DISG/6447



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## Cooler Receipt Form

Client Name: Acad Project: Fom TRV Lab Work Order: 24260

**A. Shipping/Container Information** (circle appropriate response) *Microwave.*

Courier:  FedEx  UPS  USPS  Client  Other: \_\_\_\_\_ Air bill Present:  Yes  No

Tracking Number: 770477272870

Custody Seal on Cooler/Box Present:  Yes  No Seals Intact:  Yes  No

Cooler/Box Packing Material:  Bubble Wrap  Absorbent  Foam  Other: \_\_\_\_\_

Type of Ice:  Wet  Blue  None Ice Intact:  Yes  Melted

Cooler Temperature: 3.20C Radiation Screened: Yes  No  Chain of Custody Present:  Yes  No

Comments: \_\_\_\_\_

**B. Laboratory Assignment/Log-in** (check appropriate response)

	YES	NO	N/A	Comment Reference non-Conformance
Chain of Custody properly filled out	✓			
Chain of Custody relinquished	✓			
Sampler Name & Signature on COC	✓			
Containers intact	✓			
Were samples in separate bags	✓			
Sample container labels match COC	✓			
Sample name/date and time collected	✓			
Sufficient volume provided	✓			
PAES containers used	✓			
Are containers properly preserved for the requested testing? (as labeled)	✓			
If an unknown preservation state, were containers checked? Exception: VOA's coliform	✓			If yes, see pH form.
Was volume for dissolved testing field filtered, as noted on the COC? Was volume received in a preserved container?			✓	
Headspace present?		✓		

Comments: \_\_\_\_\_

Cooler contents examined/received by: lg Date: 10.12.17

Project Manager Review: [Signature] Date: 10/12/17





Pace Analytical Energy Services LLC  
220 William Pitt Way  
Pittsburgh, PA 15238  
Phone: (412) 826-5245  
Fax: (412) 826-3433

October 31, 2017

Holly Holbrook  
AECOM  
999 W Town and Country Rd  
Orange, CA 92868

RE: **FORMER TRW MICROWAVE**

*Pace Workorder: 24270*

Dear Holly Holbrook:

Enclosed are the analytical results for sample(s) received by the laboratory on Thursday, October 12, 2017. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Ruth Welsh 10/31/2017  
Ruth.Welsh@pacelabs.com

Customer Service Representative

Enclosures

As a valued client we would appreciate your comments on our service.

Please email PAESfeedback@pacelabs.com.

Total Number of Pages 12

Report ID: 24270 - 985795

Page 1 of 9



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## LABORATORY ACCREDITATIONS & CERTIFICATIONS

<b>Accreditor:</b>	Pennsylvania Department of Environmental Protection, Bureau of Laboratories
<b>Accreditation ID:</b>	02-00538
<b>Scope:</b>	NELAP Non-Potable Water
<b>Accreditor:</b>	West Virginia Department of Environmental Protection, Division of Water and Waste Management
<b>Accreditation ID:</b>	395
<b>Scope:</b>	Non-Potable Water
<b>Accreditor:</b>	South Carolina Department of Health and Environmental Control, Office of Environmental Laboratory Certification
<b>Accreditation ID:</b>	89009003
<b>Scope:</b>	Clean Water Act (CWA); Resource Conservation and Recovery Act (RCRA)
<b>Accreditor:</b>	State of Virginia
<b>Accreditation ID:</b>	460201
<b>Scope:</b>	Non-Potable Water
<b>Accreditor:</b>	NELAP: New Jersey, Department of Environmental Protection
<b>Accreditation ID:</b>	PA026
<b>Scope:</b>	Non-Potable Water
<b>Accreditor:</b>	NELAP: New York, Department of Health Wadsworth Center
<b>Accreditation ID:</b>	11815
<b>Scope:</b>	Non-Potable Water
<b>Accreditor:</b>	State of Connecticut, Department of Public Health, Division of Environmental Health
<b>Accreditation ID:</b>	PH-0263
<b>Scope:</b>	Clean Water Act (CWA) Resource Conservation and Recovery Act (RCRA)
<b>Accreditor:</b>	NELAP: Texas, Commission on Environmental Quality
<b>Accreditation ID:</b>	T104704453-09-TX
<b>Scope:</b>	Non-Potable Water
<b>Accreditor:</b>	State of New Hampshire
<b>Accreditation ID:</b>	299409
<b>Scope:</b>	Non-potable water
<b>Accreditor:</b>	State of Georgia
<b>Accreditation ID:</b>	Chapter 391-3-26
<b>Scope:</b>	As per the Georgia EPD Rules and Regulations for Commercial Laboratories, PAES is accredited by the Pennsylvania Department of Environmental Protection Bureau of Laboratories under the National Environmental Laboratory Approval Program (NELAC).



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### SAMPLE SUMMARY

Workorder: 24270 FORMER TRW MICROWAVE

Lab ID	Sample ID	Matrix	Date Collected	Date Received
242700001	J6038-T7B-101117-1	Water	10/11/2017 08:37	10/12/2017 11:15
242700002	J6038-T5B-101117-1	Water	10/11/2017 09:22	10/12/2017 11:15
242700003	J6038-T8B-101117	Water	10/11/2017 11:02	10/12/2017 11:15
242700004	J6038-T13A-101117	Water	10/11/2017 14:35	10/12/2017 11:15



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### ANALYTICAL RESULTS

Workorder: 24270 FORMER TRW MICROWAVE

Lab ID: **242700001** Date Received: 10/12/2017 11:15 Matrix: Water  
 Sample ID: **J6038-T7B-101117-1** Date Collected: 10/11/2017 08:37

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
------------	---------	-------	-----	-----	----	----------	----	------------

**Compound Specific Isotopic - PAES**

Analysis Desc: AM24	Analytical Method: AM24							
Carbon 13 Isotope	<b>Complete</b>				1	10/25/2017 00:00	CS	n
Chlorine 37 Isotope	<b>Complete</b>				1	10/25/2017 00:00	CS	n



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### ANALYTICAL RESULTS

Workorder: 24270 FORMER TRW MICROWAVE

Lab ID: **242700002** Date Received: 10/12/2017 11:15 Matrix: Water  
 Sample ID: **J6038-T5B-101117-1** Date Collected: 10/11/2017 09:22

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
------------	---------	-------	-----	-----	----	----------	----	------------

**Compound Specific Isotopic - PAES**

Analysis Desc: AM24	Analytical Method: AM24							
Carbon 13 Isotope	<b>Complete</b>				1	10/25/2017 00:00	CS	n
Chlorine 37 Isotope	<b>Complete</b>				1	10/25/2017 00:00	CS	n



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**ANALYTICAL RESULTS**

Workorder: 24270 FORMER TRW MICROWAVE

Lab ID: **242700003** Date Received: 10/12/2017 11:15 Matrix: Water  
 Sample ID: **J6038-T8B-101117** Date Collected: 10/11/2017 11:02

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
------------	---------	-------	-----	-----	----	----------	----	------------

**Compound Specific Isotopic - PAES**

Analysis Desc: AM24		Analytical Method: AM24						
Carbon 13 Isotope	<b>Complete</b>			1		10/25/2017 00:00	CS	n
Chlorine 37 Isotope	<b>Complete</b>			1		10/25/2017 00:00	CS	n



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**ANALYTICAL RESULTS**

Workorder: 24270 FORMER TRW MICROWAVE

Lab ID: **242700004** Date Received: 10/12/2017 11:15 Matrix: Water  
 Sample ID: **J6038-T13A-101117** Date Collected: 10/11/2017 14:35

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
------------	---------	-------	-----	-----	----	----------	----	------------

**Compound Specific Isotopic - PAES**

Analysis Desc: AM24		Analytical Method: AM24						
Carbon 13 Isotope	<b>Complete</b>			1		10/25/2017 00:00	CS	n
Chlorine 37 Isotope	<b>Complete</b>			1		10/25/2017 00:00	CS	n



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## ANALYTICAL RESULTS QUALIFIERS

Workorder: 24270 FORMER TRW MICROWAVE

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### DEFINITIONS/QUALIFIERS

- MDL Method Detection Limit. Can be used synonymously with LOD; Limit Of Detection.
- PQL Practical Quantitation Limit. Can be used synonymously with LOQ; Limit Of Quantitation.
- ND Not detected at or above reporting limit.
- DF Dilution Factor.
- S Surrogate.
- RPD Relative Percent Difference.
- % Rec Percent Recovery.
- U Indicates the compound was analyzed for, but not detected at or above the noted concentration.
- J Estimated concentration greater than the set method detection limit (MDL) and less than the set reporting limit (PQL).
- 
- n The laboratory does not hold NELAP/TNI accreditation for this method or analyte.



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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 24270 FORMER TRW MICROWAVE

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
242700001	J6038-T7B-101117-1			AM24	CSIA/1688
242700002	J6038-T5B-101117-1			AM24	CSIA/1688
242700003	J6038-T8B-101117			AM24	CSIA/1688
242700004	J6038-T13A-101117			AM24	CSIA/1688



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Client: AECOM  
 999 W Town and Country Rd  
 Orange, CA 92868  
 Project: Former TRW Microwave  
 Project # 171009-MM1  
 Report to: Holly Holbrook  
 holly.holbrook@aecom.com

Pace Analytical Energy Services  
 220 William Pitt Way  
 Pittsburgh, PA 15238

412-826-5245

## Report of Isotope Analysis

Water samples for  $\delta^{13}\text{C}$  (‰, PDB) and  $\delta^{37}\text{Cl}$  (‰, SMOC) isotopic ratios

Lab Sample Number	Client's Sample ID	$\delta^{13}\text{C}$	$\delta^{13}\text{C}$	$\delta^{13}\text{C}$	$\delta^{37}\text{Cl}$
		VC	cDCE	TCE	TCE
242700001	J6038-T7B-101117-1	ND	-13.74	-19.22	-1.86
242700002	J6038-T5B-101117-1	ND	-22.25	-18.22	-1.82
242700003	J6038-T8B-101117	-34.89	-18.88	ND	N/A
242700004	J6038-T13A-101117	-25.85	-14.32	-17.17	-0.99

ND: Ratio Not Determined

N/A: Sample Not Analyzed

VC: Vinyl Chloride  
 cDCE: cis-Dichloroethene  
 TCE: Trichloroethene

Method: Compound Specific Isotope Analysis for  $^{13}\text{C}$  and  $^2\text{H}$  by GC-IRMS, for  $^{37}\text{Cl}$  by GC-qMS

Quality Control STDs	$\delta^{13}\text{C}$	$\delta^{13}\text{C}$	$\delta^{13}\text{C}$	$\delta^{37}\text{Cl}$
	VC	cDCE	TCE	TCE
QC-1	-27.55	-21.04	-25.95	1.05
QC-2	-26.99	-20.24	-25.37	0.73
Mean	-27.27	-20.64	-25.66	0.89
Analytical Precision ( $1\sigma$ )	0.39	0.57	0.41	0.23

# BLAINE

TECH SERVICES, INC.

24270

1680 ROGERS AVENUE  
 SAN JOSE, CALIFORNIA 95112-1105  
 FAX (408) 573-7771  
 PHONE (408) 573-0555

CHAIN OF CUSTODY  
 BTS # 171009-1111

CLIENT: AECOM  
 Former TRW Microwave  
 SITE: 825 Stewart Dr., Sunnyvale, CA

DATE	TIME	MATERIAL	CONTAINERS
10-11-17	0837	W	9 VOLS HCL
10-11-17	0922	W	9 VOLS HCL
10-11-17	1017	W	6 MIX
10-11-17	1102	W	9 VOLS HCL
10-11-17	1244	W	6 MIX
10-11-17	1341	W	6 MIX
10-11-17	1435	W	15 MIX

W = COMPOSITE ALL CONTAINERS

CONDUCT ANALYSIS TO DETECT	RESULTS
Total Organic Carbon	X
Sulfate	X
Methane, Ethane, Ethene	X
C12/C13 for TCE, eDCE, VC	X

SAMPLING COMPLETED DATE: 10-11-17 TIME: 1500  
 PERFORMED BY: Mark McElloch  
 RECEIVED BY: [Signature] DATE: 10-11-17 TIME: 1645  
 RESULTS NEEDED: Standard TAT

RELEASED BY: [Signature] DATE: 10-11-17 TIME: 1500  
 RECEIVED BY: [Signature] DATE: 10-12-17 TIME: 11:15  
 RELEASED BY: [Signature] DATE: 10-11-17 TIME: 1645  
 RECEIVED BY: [Signature] DATE: 10-11-17 TIME: 1700

SHIPPED VIA: Fed Ex  
 DATE SENT: 10-11-17  
 TIME SENT: 1700  
 COOLER #

LAB: Pace/Microseeps  
 ALL ANALYSES MUST MEET SPECIFICATIONS AND DETECTION LIMITS SET BY CALIFORNIA DHS AND  
 EPA  
 LIA  
 OTHER  
 SPECIAL INSTRUCTIONS: Invoice to: NGC  
 Report to: AECOM - Holly Holbrook  
 714.699.7215 - Holly.Holbrook@aecom.com

## Cooler Receipt Form

Client Name: Agrium Project: FM TRW Lab Work Order: 24270

A. Shipping/Container Information (circle appropriate response) Microwave

Courier:  FedEx UPS USPS Client Other: \_\_\_\_\_ Air bill Present:  Yes No

Tracking Number: 770477272870

Custody Seal on Cooler/Box Present:  Yes No Seals Intact:  Yes No

Cooler/Box Packing Material:  Bubble Wrap Absorbent Foam Other: \_\_\_\_\_

Type of Ice:  Wet Blue None Ice Intact:  Yes Melted

Cooler Temperature: 3 20c Radiation Screened: Yes  No Chain of Custody Present:  Yes No

Comments: \_\_\_\_\_

B. Laboratory Assignment/Log-in (check appropriate response)

	YES	NO	N/A	Comment Reference non-Conformance
Chain of Custody properly filled out	✓			
Chain of Custody relinquished	✓			
Sampler Name & Signature on COC	✓			
Containers intact	✓			
Were samples in separate bags	✓			
Sample container labels match COC	✓			
Sample name/date and time collected	✓			
Sufficient volume provided	✓			
PAES containers used	✓			
Are containers properly preserved for the requested testing? (as labeled)	✓			
If an unknown preservation state, were containers checked? Exception: VOA's coliform			✓	If yes, see pH form.
Was volume for dissolved testing field filtered, as noted on the COC? Was volume received in a preserved container?			✓	
Headspace present?		✓		

Comments: \_\_\_\_\_

Cooler contents examined/received by: LG Date: 10.12.17

Project Manager Review: [Signature] Date: 10/12/17



October 31, 2017

Holly Holbrook  
AECOM  
999 W Town and Country Rd  
Orange, CA 92868

RE: **FORMER TRW MICROWAVE**

*Pace Workorder:* 24293

Dear Holly Holbrook:

Enclosed are the analytical results for sample(s) received by the laboratory on Friday, October 13, 2017. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Ruth Welsh 10/31/2017  
Ruth.Welsh@pacelabs.com

Customer Service Representative

Enclosures

As a valued client we would appreciate your comments on our service.

Please email PAESfeedback@pacelabs.com.

Total Number of Pages 12

Report ID: 24293 - 985808

Page 1 of 9



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## LABORATORY ACCREDITATIONS & CERTIFICATIONS

<b>Accreditor:</b>	Pennsylvania Department of Environmental Protection, Bureau of Laboratories
<b>Accreditation ID:</b>	02-00538
<b>Scope:</b>	NELAP Non-Potable Water
<b>Accreditor:</b>	West Virginia Department of Environmental Protection, Division of Water and Waste Management
<b>Accreditation ID:</b>	395
<b>Scope:</b>	Non-Potable Water
<b>Accreditor:</b>	South Carolina Department of Health and Environmental Control, Office of Environmental Laboratory Certification
<b>Accreditation ID:</b>	89009003
<b>Scope:</b>	Clean Water Act (CWA); Resource Conservation and Recovery Act (RCRA)
<b>Accreditor:</b>	State of Virginia
<b>Accreditation ID:</b>	460201
<b>Scope:</b>	Non-Potable Water
<b>Accreditor:</b>	NELAP: New Jersey, Department of Environmental Protection
<b>Accreditation ID:</b>	PA026
<b>Scope:</b>	Non-Potable Water
<b>Accreditor:</b>	NELAP: New York, Department of Health Wadsworth Center
<b>Accreditation ID:</b>	11815
<b>Scope:</b>	Non-Potable Water
<b>Accreditor:</b>	State of Connecticut, Department of Public Health, Division of Environmental Health
<b>Accreditation ID:</b>	PH-0263
<b>Scope:</b>	Clean Water Act (CWA) Resource Conservation and Recovery Act (RCRA)
<b>Accreditor:</b>	NELAP: Texas, Commission on Environmental Quality
<b>Accreditation ID:</b>	T104704453-09-TX
<b>Scope:</b>	Non-Potable Water
<b>Accreditor:</b>	State of New Hampshire
<b>Accreditation ID:</b>	299409
<b>Scope:</b>	Non-potable water
<b>Accreditor:</b>	State of Georgia
<b>Accreditation ID:</b>	Chapter 391-3-26
<b>Scope:</b>	As per the Georgia EPD Rules and Regulations for Commercial Laboratories, PAES is accredited by the Pennsylvania Department of Environmental Protection Bureau of Laboratories under the National Environmental Laboratory Approval Program (NELAC).



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### SAMPLE SUMMARY

Workorder: 24293 FORMER TRW MICROWAVE

Lab ID	Sample ID	Matrix	Date Collected	Date Received
242930001	J6038-T21B-101217	Water	10/12/2017 07:56	10/13/2017 11:00
242930002	J6038-T17B-101217	Water	10/12/2017 09:18	10/13/2017 11:00
242930003	J6038-38S-101217	Water	10/12/2017 10:18	10/13/2017 11:00
242930004	J6038-T8A-101217	Water	10/12/2017 11:05	10/13/2017 11:00



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**ANALYTICAL RESULTS**

Workorder: 24293 FORMER TRW MICROWAVE

Lab ID: **242930001** Date Received: 10/13/2017 11:00 Matrix: Water  
 Sample ID: **J6038-T21B-101217** Date Collected: 10/12/2017 07:56

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
------------	---------	-------	-----	-----	----	----------	----	------------

**Compound Specific Isotopic - PAES**

Analysis Desc: AM24	Analytical Method: AM24							
Carbon 13 Isotope	<b>Complete</b>				1	10/26/2017 00:00	CS	n
Chlorine 37 Isotope	<b>Complete</b>				1	10/26/2017 00:00	CS	n



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### ANALYTICAL RESULTS

Workorder: 24293 FORMER TRW MICROWAVE

Lab ID: **242930002** Date Received: 10/13/2017 11:00 Matrix: Water  
 Sample ID: **J6038-T17B-101217** Date Collected: 10/12/2017 09:18

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
------------	---------	-------	-----	-----	----	----------	----	------------

**Compound Specific Isotopic - PAES**

Analysis Desc: AM24	Analytical Method: AM24							
Carbon 13 Isotope	<b>Complete</b>				1	10/26/2017 00:00	CS	n
Chlorine 37 Isotope	<b>Complete</b>				1	10/26/2017 00:00	CS	n



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### ANALYTICAL RESULTS

Workorder: 24293 FORMER TRW MICROWAVE

Lab ID: **242930003** Date Received: 10/13/2017 11:00 Matrix: Water  
 Sample ID: **J6038-38S-101217** Date Collected: 10/12/2017 10:18

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
------------	---------	-------	-----	-----	----	----------	----	------------

**Compound Specific Isotopic - PAES**

Analysis Desc: AM24	Analytical Method: AM24							
Carbon 13 Isotope	<b>Complete</b>				1	10/26/2017 00:00	CS	n
Chlorine 37 Isotope	<b>Complete</b>				1	10/26/2017 00:00	CS	n



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**ANALYTICAL RESULTS**

Workorder: 24293 FORMER TRW MICROWAVE

Lab ID: **242930004** Date Received: 10/13/2017 11:00 Matrix: Water  
 Sample ID: **J6038-T8A-101217** Date Collected: 10/12/2017 11:05

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
------------	---------	-------	-----	-----	----	----------	----	------------

**Compound Specific Isotopic - PAES**

Analysis Desc: AM24	Analytical Method: AM24							
Carbon 13 Isotope	<b>Complete</b>				1	10/26/2017 00:00	CS	n
Chlorine 37 Isotope	<b>Complete</b>				1	10/26/2017 00:00	CS	n



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## ANALYTICAL RESULTS QUALIFIERS

Workorder: 24293 FORMER TRW MICROWAVE

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### DEFINITIONS/QUALIFIERS

- MDL Method Detection Limit. Can be used synonymously with LOD; Limit Of Detection.
- PQL Practical Quantitation Limit. Can be used synonymously with LOQ; Limit Of Quantitation.
- ND Not detected at or above reporting limit.
- DF Dilution Factor.
- S Surrogate.
- RPD Relative Percent Difference.
- % Rec Percent Recovery.
- U Indicates the compound was analyzed for, but not detected at or above the noted concentration.
- J Estimated concentration greater than the set method detection limit (MDL) and less than the set reporting limit (PQL).
- 
- n The laboratory does not hold NELAP/TNI accreditation for this method or analyte.



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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 24293 FORMER TRW MICROWAVE

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
242930001	J6038-T21B-101217			AM24	CSIA/1688
242930002	J6038-T17B-101217			AM24	CSIA/1688
242930003	J6038-38S-101217			AM24	CSIA/1688
242930004	J6038-T8A-101217			AM24	CSIA/1688



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Client: AECOM  
 999 W Town and Country Rd  
 Orange, CA 92868  
 Project: Former TRW Microwave  
 Project # 171009-MM1  
 Report to: Holly Holbrook  
 holly.holbrook@aecom.com

Pace Analytical Energy Services  
 220 William Pitt Way  
 Pittsburgh, PA 15238

412-826-5245

## Report of Isotope Analysis

Water samples for  $\delta^{13}\text{C}$  (‰, PDB) and  $\delta^{37}\text{Cl}$  (‰, SMOC) isotopic ratios

Lab Sample Number	Client's Sample ID	$\delta^{13}\text{C}$	$\delta^{13}\text{C}$	$\delta^{13}\text{C}$	$\delta^{37}\text{Cl}$
		VC	cDCE	TCE	TCE
242930001	J6038-T21B-101217	ND	-19.01	-16.32	-1.30
242930002	J6038-T17B-101217	ND	-18.28	-17.63	-1.07
242930003	J6038-38S-101217	-23.43	-17.85	-16.77	-0.72
242930004	J6038-T8A-101217	-29.06	-15.91	-17.24	-0.83

ND: Ratio Not Determined  
 N/A: Sample Not Analyzed

VC: Vinyl Chloride  
 cDCE: cis-Dichloroethene  
 TCE: Trichloroethene

Method: Compound Specific Isotope Analysis for  $^{13}\text{C}$  and  $^2\text{H}$  by GC-IRMS, for  $^{37}\text{Cl}$  by GC-qMS

Quality Control STDs	$\delta^{13}\text{C}$	$\delta^{13}\text{C}$	$\delta^{13}\text{C}$	$\delta^{37}\text{Cl}$
	VC	cDCE	TCE	TCE
QC-1	-25.57	-19.87	-24.21	1.05
QC-2	-25.27	-18.78	-23.93	0.73
Mean	-25.42	-19.32	-24.07	0.89
Analytical Precision ( $1\sigma$ )	0.21	0.77	0.20	0.23

# BLAINE

TECH SERVICES, INC.

1680 ROGERS AVENUE  
 SAN JOSE, CALIFORNIA 95112-1105  
 FAX (408) 573-7771  
 PHONE (408) 573-0555

242093

CHAIN OF CUSTODY  
 BTS #171609-MMM1

CLIENT  
 AECOM

SITE  
 Former TRW Microwave  
 825 Stewart Dr., Sunnyvale, CA

DATE	TIME	MATRIX	CONTAINERS
10-12-17	0756	W	9 Vials Hcl
10-12-17	0847	W	4 MIX
10-12-17	0918	W	15 MIX
10-12-17	1018	W	12 MIX
10-12-17	1105	W	15 MIX

C = COMPOSITE ALL CONTAINERS

CONDUCT ANALYSIS TO DETECT
Total Organic Carbon
Sulfate
Methane, Ethane, Ethene
C12/C13 for TCE, eDCE, VC

LAB Pace/Microseeps DHS #

ALL ANALYSES MUST MEET SPECIFICATIONS AND DETECTION LIMITS SET BY CALIFORNIA DHS AND

EPA  RWQCB REGION  
 LIA

SPECIAL INSTRUCTIONS

Invoice to: NGC

Report to: AECOM - Holly Holbrook

714.689.7215 - Holly.Holbrook@aecom.com

ADDITIONAL INFORMATION STATUS CONDITION LAB SAMPLE #

SAMPLING COMPLETED	DATE	TIME	SAMPLING PERFORMED BY	DATE	TIME	RECEIVED BY	DATE	TIME	RESULTS NEEDED
10-12-17	1146	Mark McCallach	10-12-17	1400	Sample Custodian	10-12-17	1400	Standard TAT	
10-12-17	1430	10-12-17	1430	10-12-17	1400	10-12-17	1400		
10-12-17	1630	10-12-17	1630	10-12-17	1108	10-12-17	1108		

RELEASED BY [Signature] DATE 10-12-17 TIME 1430 RECEIVED BY [Signature] DATE 10-12-17 TIME 1400

RELEASED BY [Signature] DATE 10-12-17 TIME 1630 RECEIVED BY [Signature] DATE 10-12-17 TIME 1108

SHIPPED VIA Fed Ex DATE SENT 10/12 TIME SENT 1630 COOLER #

## Cooler Receipt Form

Client Name: Aescom Project: Fom TRW Microwave Lab Work Order: 24293

**A. Shipping/Container Information (circle appropriate response)**

Courier:  FedEx UPS USPS Client Other: \_\_\_\_\_ Air bill Present:  Yes  No

Tracking Number: 770488749049

Custody Seal on Cooler/Box Present:  Yes  No Seals Intact:  Yes  No

Cooler/Box Packing Material:  Bubble Wrap  Absorbent  Foam Other: \_\_\_\_\_

Type of Ice:  Wet  Blue  None Ice Intact:  Yes  Melted

Cooler Temperature: 1°C Radiation Screened: Yes  No Chain of Custody Present:  Yes  No

Comments: \_\_\_\_\_

**B. Laboratory Assignment/Log-in (check appropriate response)**

	YES	NO	N/A	Comment Reference non-Conformance
Chain of Custody properly filled out	✓			
Chain of Custody relinquished	✓			
Sampler Name & Signature on COC	✓			
Containers intact	✓			
Were samples in separate bags	✓			
Sample container labels match COC	✓			
Sample name/date and time collected	✓			
Sufficient volume provided	✓			
PAES containers used	✓			
Are containers properly preserved for the requested testing? (as labeled)	✓			
If an unknown preservation state, were containers checked? Exception: VOA's coliform			✓	If yes, see pH form.
Was volume for dissolved testing field filtered, as noted on the COC? Was volume received in a preserved container?			✓	
Headspace present?		✓		

Comments: \_\_\_\_\_

Cooler contents examined/received by: LY Date: 10-13-17

Project Manager Review: EO Date: 10-13-17



Pace Analytical Energy Services LLC  
220 William Pitt Way  
Pittsburgh, PA 15238  
Phone: (412) 826-5245  
Fax: (412) 826-3433

October 31, 2017

Holly Holbrook  
AECOM  
999 W Town and Country Rd  
Orange, CA 92868

RE: **FORMER TRW MICROWAVE**

*Pace Workorder: 24307*

Dear Holly Holbrook:

Enclosed are the analytical results for sample(s) received by the laboratory on Monday, October 16, 2017. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Ruth Welsh 10/31/2017  
Ruth.Welsh@pacelabs.com

Customer Service Representative

Enclosures

As a valued client we would appreciate your comments on our service.

Please email PAESfeedback@pacelabs.com.

Total Number of Pages 11

Report ID: 24307 - 985820

Page 1 of 8



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## LABORATORY ACCREDITATIONS & CERTIFICATIONS

<b>Accreditor:</b>	Pennsylvania Department of Environmental Protection, Bureau of Laboratories
<b>Accreditation ID:</b>	02-00538
<b>Scope:</b>	NELAP Non-Potable Water
<b>Accreditor:</b>	West Virginia Department of Environmental Protection, Division of Water and Waste Management
<b>Accreditation ID:</b>	395
<b>Scope:</b>	Non-Potable Water
<b>Accreditor:</b>	South Carolina Department of Health and Environmental Control, Office of Environmental Laboratory Certification
<b>Accreditation ID:</b>	89009003
<b>Scope:</b>	Clean Water Act (CWA); Resource Conservation and Recovery Act (RCRA)
<b>Accreditor:</b>	State of Virginia
<b>Accreditation ID:</b>	460201
<b>Scope:</b>	Non-Potable Water
<b>Accreditor:</b>	NELAP: New Jersey, Department of Environmental Protection
<b>Accreditation ID:</b>	PA026
<b>Scope:</b>	Non-Potable Water
<b>Accreditor:</b>	NELAP: New York, Department of Health Wadsworth Center
<b>Accreditation ID:</b>	11815
<b>Scope:</b>	Non-Potable Water
<b>Accreditor:</b>	State of Connecticut, Department of Public Health, Division of Environmental Health
<b>Accreditation ID:</b>	PH-0263
<b>Scope:</b>	Clean Water Act (CWA) Resource Conservation and Recovery Act (RCRA)
<b>Accreditor:</b>	NELAP: Texas, Commission on Environmental Quality
<b>Accreditation ID:</b>	T104704453-09-TX
<b>Scope:</b>	Non-Potable Water
<b>Accreditor:</b>	State of New Hampshire
<b>Accreditation ID:</b>	299409
<b>Scope:</b>	Non-potable water
<b>Accreditor:</b>	State of Georgia
<b>Accreditation ID:</b>	Chapter 391-3-26
<b>Scope:</b>	As per the Georgia EPD Rules and Regulations for Commercial Laboratories, PAES is accredited by the Pennsylvania Department of Environmental Protection Bureau of Laboratories under the National Environmental Laboratory Approval Program (NELAC).



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### SAMPLE SUMMARY

Workorder: 24307 FORMER TRW MICROWAVE

Lab ID	Sample ID	Matrix	Date Collected	Date Received
243070001	J6038-T24B-101317	Water	10/13/2017 08:44	10/16/2017 07:30
243070002	J6038-T22B-101317	Water	10/13/2017 09:32	10/16/2017 07:30
243070003	J6308-T4B-101317	Water	10/13/2017 10:43	10/16/2017 07:30



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**ANALYTICAL RESULTS**

Workorder: 24307 FORMER TRW MICROWAVE

Lab ID: **243070001** Date Received: 10/16/2017 07:30 Matrix: Water  
 Sample ID: **J6038-T24B-101317** Date Collected: 10/13/2017 08:44

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
------------	---------	-------	-----	-----	----	----------	----	------------

**Compound Specific Isotopic - PAES**

Analysis Desc: AM24		Analytical Method: AM24	
Carbon 13 Isotope	<b>Complete</b>		1 10/26/2017 00:00 CS
Chlorine 37 Isotope	<b>Complete</b>		1 10/26/2017 00:00 CS



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**ANALYTICAL RESULTS**

Workorder: 24307 FORMER TRW MICROWAVE

Lab ID: **243070002** Date Received: 10/16/2017 07:30 Matrix: Water  
 Sample ID: **J6038-T22B-101317** Date Collected: 10/13/2017 09:32

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
------------	---------	-------	-----	-----	----	----------	----	------------

**Compound Specific Isotopic - PAES**

Analysis Desc: AM24		Analytical Method: AM24						
Carbon 13 Isotope	<b>Complete</b>				1	10/26/2017 00:00	CS	
Chlorine 37 Isotope	<b>Complete</b>				1	10/26/2017 00:00	CS	



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**ANALYTICAL RESULTS**

Workorder: 24307 FORMER TRW MICROWAVE

Lab ID: **243070003** Date Received: 10/16/2017 07:30 Matrix: Water  
 Sample ID: **J6308-T4B-101317** Date Collected: 10/13/2017 10:43

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
------------	---------	-------	-----	-----	----	----------	----	------------

**Compound Specific Isotopic - PAES**

Analysis Desc: AM24		Analytical Method: AM24	
Carbon 13 Isotope	<b>Complete</b>		1 10/26/2017 00:00 CS
Chlorine 37 Isotope	<b>Complete</b>		1 10/26/2017 00:00 CS



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## ANALYTICAL RESULTS QUALIFIERS

Workorder: 24307 FORMER TRW MICROWAVE

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### DEFINITIONS/QUALIFIERS

MDL	Method Detection Limit. Can be used synonymously with LOD; Limit Of Detection.
PQL	Practical Quantitation Limit. Can be used synonymously with LOQ; Limit Of Quantitation.
ND	Not detected at or above reporting limit.
DF	Dilution Factor.
S	Surrogate.
RPD	Relative Percent Difference.
% Rec	Percent Recovery.
U	Indicates the compound was analyzed for, but not detected at or above the noted concentration.
J	Estimated concentration greater than the set method detection limit (MDL) and less than the set reporting limit (PQL).



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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 24307 FORMER TRW MICROWAVE

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
243070001	J6038-T24B-101317			AM24	CSIA/1688
243070002	J6038-T22B-101317			AM24	CSIA/1688
243070003	J6308-T4B-101317			AM24	CSIA/1688



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Client: AECOM  
 999 W Town and Country Rd  
 Orange, CA 92868  
 Project: Former TRW Microwave  
 Project # 171009-MM1  
 Report to: Holly Holbrook  
 holly.holbrook@aecom.com

Pace Analytical Energy Services  
 220 William Pitt Way  
 Pittsburgh, PA 15238

412-826-5245

## Report of Isotope Analysis

Water samples for  $\delta^{13}\text{C}$  (‰, PDB) and  $\delta^{37}\text{Cl}$  (‰, SMOC) isotopic ratios

Lab Sample Number	Client's Sample ID	$\delta^{13}\text{C}$	$\delta^{13}\text{C}$	$\delta^{13}\text{C}$	$\delta^{37}\text{Cl}$
		VC	cDCE	TCE	TCE
243070001	J6038-T24B-101317	-20.38	-22.18	-19.81	-0.14
243070002	J6038-T22B-101317	ND	-19.46	-18.47	-1.15
243070003	J6038-T4B-101317	ND	-17.69	-11.16	2.65

ND: Ratio Not Determined

N/A: Sample Not Analyzed

VC: Vinyl Chloride  
 cDCE: cis-Dichloroethene  
 TCE: Trichloroethene

Method: Compound Specific Isotope Analysis for  $^{13}\text{C}$  and  $^2\text{H}$  by GC-IRMS, for  $^{37}\text{Cl}$  by GC-qMS

Quality Control STDs	$\delta^{13}\text{C}$	$\delta^{13}\text{C}$	$\delta^{13}\text{C}$	$\delta^{37}\text{Cl}$
	VC	cDCE	TCE	TCE
QC-1	-25.57	-19.87	-24.21	1.05
QC-2	-25.27	-18.78	-23.93	0.73
Mean	-25.42	-19.32	-24.07	0.89
Analytical Precision ( $1\sigma$ )	0.21	0.77	0.20	0.23

# BLAINE

1680 ROGERS AVENUE  
 SAN JOSE, CALIFORNIA 95112-1105  
 FAX (408) 573-7771  
 PHONE (408) 573-0555

TECH SERVICES, INC.

24207

CHAIN OF CUSTODY  
 CLIENT: AECOM  
 SITE: Former TRW Microwave  
 825 Stewart Dr., Sunnyvale, CA

BTS # 171689-MM1

DATE	TIME	MATRIX	CONTAINERS
10-13	0844	W	9
10-13	0932	W	9
10-13	1043	W	9
10-13	1302	W	6

W = COMPOSITE ALL CONTAINERS

CONDUCT ANALYSIS TO DETECT
Total Organic Carbon
Sulfate
Methane, Ethane, Ethene
Cl2/Cl3 for TCE, eDCE, VC

LAB Pace/Microseeps DHS #

ALL ANALYSES MUST MEET SPECIFICATIONS AND DETECTION LIMITS SET BY CALIFORNIA DHS AND

EPA  
 LIA  
 OTHER

RWQCB REGION

SPECIAL INSTRUCTIONS

Invoice to: NGC

Report to: AECOM - Holly Holbrook

714.689.7215 · Holly.Holbrook@aecom.com

ADDITIONAL INFORMATION STATUS CONDITION LAB SAMPLE #

SAMPLING COMPLETED	DATE	TIME	SAMPLING PERFORMED BY	RESULTS NEEDED
36658-72LB-10317	10-13-17	0844	W	9
36658-72LB-10317	10-13-17	0932	W	9
36658-74B-10317	10-13-17	1043	W	9
36658-725A-10317	10-13-17	1302	W	6

RESULTS NEEDED  
 NO LATER THAN  
**Standard TAT**

RELEASED BY [Signature] DATE 10-13-17 TIME 1600 RECEIVED BY [Signature] DATE 10-16-17 TIME 0730

RELEASED BY \_\_\_\_\_ DATE \_\_\_\_\_ TIME \_\_\_\_\_ RECEIVED BY \_\_\_\_\_ DATE \_\_\_\_\_ TIME \_\_\_\_\_

SHIPPED VIA Fed Ex DATE SENT 10-13-17 TIME SENT 1600 COOLER # \_\_\_\_\_

## Cooler Receipt Form

Client Name: GED/PAE Project: TRW Microwave Lab Work Order: 24307

**A. Shipping/Container Information (circle appropriate response)**

Courier: FedEx UPS USPS Client Other: \_\_\_\_\_ Air bill Present: Yes No

Tracking Number: 7704 9867 8320

Custody Seal on Cooler/Box Present: Yes No Seals Intact: Yes No

Cooler/Box Packing Material: Bubble Wrap Absorbent Foam Other: \_\_\_\_\_

Type of Ice: Wet Blue None Ice Intact: Yes Melted

Cooler Temperature: 0.1°C Radiation Screened: Yes No Chain of Custody Present: Yes No

Comments: \_\_\_\_\_

**B. Laboratory Assignment/Log-in (check appropriate response)**

	YES	NO	N/A	Comment Reference non-Conformance
Chain of Custody properly filled out	✓			
Chain of Custody relinquished	✓			
Sampler Name & Signature on COC	✓			
Containers intact	✓			
Were samples in separate bags	✓			
Sample container labels match COC	✓			
Sample name/date and time collected	✓			
Sufficient volume provided	✓			
PAES containers used	✓			
Are containers properly preserved for the requested testing? (as labeled)	✓			
If an unknown preservation state, were containers checked? Exception: VOA's coliform			✓	If yes, see pH form.
Was volume for dissolved testing field filtered, as noted on the COC? Was volume received in a preserved container?			✓	
Headspace present?		✓		

Comments: \_\_\_\_\_

Cooler contents examined/received by: LY Date: 10.16.17

Project Manager Review: [Signature] Date: 10/16/17



10515 Research Drive  
Knoxville, TN 37932  
Phone: (865) 573-8188  
Fax: (865) 573-8133

---

**Client:** Holly Holbrook  
AECOM  
999 W. Town and Country Road  
Orange, CA 92868

**Phone:**

**Fax:**

**Identifier:** 0310J

**Date Rec:** 10/12/2017

**Report Date:** 10/19/2017

**Client Project #:** 11124818-J6038

**Client Project Name:** Former TRW Microwave

**Purchase Order #:** 34012190

**Analysis Requested:** CENSUS, Miscellaneous

**Reviewed By:**

---

NOTICE: This report is intended only for the addressee shown above and may contain confidential or privileged information. If the recipient of this material is not the intended recipient or if you have received this in error, please notify Microbial Insights, Inc. immediately. The data and other information in this report represent only the sample(s) analyzed and are rendered upon condition that it is not to be reproduced without approval from Microbial Insights, Inc. Thank you for your cooperation.

**Client:** AECOM  
**Project:** Former TRW Microwave

**MI Project Number:** 0310J  
**Date Received:** 10/12/2017

**Sample Information**

Client Sample ID:	J6038-T19A-101	J6038-T23A-10	J6038-T13A-10
	117	1117	1117
Sample Date:	10/11/2017	10/11/2017	10/11/2017
Units:	cells/mL	cells/mL	cells/mL
Analyst/Reviewer:	JS	JS	JS

**Dechlorinating Bacteria**

<i>Dehalococcoides</i>	DHC	1.56E+02	1.00E+02	3.25E+01
------------------------	-----	----------	----------	----------

**Legend:**

NA = Not Analyzed    NS = Not Sampled    J = Estimated gene copies below PQL but above LQL    I = Inhibited  
 < = Result not detected

Quality Assurance/Quality Control Data

Samples Received 10/12/2017

Component	Date Prepared	Date Analyzed	Arrival Temperature	Positive Control	Extraction Blank	Negative Control
DHC	10/12/2017	10/19/2017	0 °C	102%	non-detect	non-detect